EFFECTIVENESS OF COPING STRATEGIES ON PAIN AND FEAR OF HOSPITALIZATION AMONG CHILDREN ADMITTED AT KOVAI MEDICAL CENTER AND HOSPITAL, COIMBATORE.

Reg.No:301615451

A DISSERTATION SUBMITTED TO THE TAMILNADU
Dr. M. G. R. MEDICAL UNIVERSITY, CHENNAI, IN
PARTIALFULFILMENT OF REQUIREMENT
FOR THE DEGREE OFMASTER OF
SCIENCE IN NURSING

OCTOBER 2018

CERTIFICATE

This is to certify that the dissertation entitled "**EFFECTIVENESS OF COPING STRATEGIES ON PAIN AND FEAR OF HOSPITALIZATION AMONG CHILDREN ADMITTED AT KOVAI MEDICAL CENTER AND HOSPITAL, COIMBATORE"** is submitted to the faculty of nursing. **The Tamil Nadu Dr. M.G. R Medical University, Chennai** by **Reg. No 301615451,** In partial fulfillment of requirement for the degree of Master of Sciences in Nursing. It is the bonafide work done by her and the conclusions are her own.It is further certified that this dissertation or any part thereof has not formed on the basis for award of any degree,diploma or similar titles.

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CHAPTER –I

INTRODUCTION

Hospitalization is considered the difficult situation for the children. The environment which surrounds the children in a hospital, physical factors such as pain, fear, underlying causes of disease, hospital medical procedures and even a medical examination in the hospital could be a stressful event for children. Nowadays, sickness and hospitalization have a negative attitude about daily activities and rituals of children. Venous cannulation has been reported to be the most common painful an fearful event for a hospitalized children. Pain is considered the fifth vital signs. Pain is a common prevalent problem among hospitalized children. **(Supriya Singh et al 2017).**

The International Association for the Study of Pain (IASP) described the pain as an unpleasant emotional and sensory state and behavior that originates from any region of the body depends on existing or possible tissue damage. Pain, when experienced in childhood, causes a negative attitude toward them, children. Children have exposed for more painful medical procedures during diagnosis, treatment and follow-up procedures from the neonatal period too until later adult. Children in hospitals frequently undergo painful medical procedures such as withdraw blood, intramuscular injections, and immunization, which are sensed as fearful and painful experience by children. Most of the time, these fears and pain lead to affected by parents and children towards medical procedures and affect children's future experience of hospitalization and treatment of pediatric care unit. **(Diler Aydin et al 2016).**

Hospitalization is considered as an unpleasant experience both for adults and mostly for children, who have to leave the familiar place of their home and the children sudden removal from one’s home and entry to the frightening environment of a hospital cause acute fear and distress both to the child and to the family members. The main causes of such feelings seen to include fear of medical examinations, pain during IV cannulation , death, fear of separation from the parents and family members, and diagnostic and treatment procedures, loss of control. Plays are important to assist children to become familiar with the unknown environment of the

hospital, express their feelings, familiarize themselves with the medical procedures and caregiver in the hospital**. ((Konstantinos Koukourikos et al 2015).**

Pain is a highly prevalent problem in children and adults. It is a predominantly subjective emotional distress that also leads to poor quality of life. Medical procedures that are applied using a needle, such as venipuncture and immunization are the most common and important sources of pain for children, causing anxiety, distress, and fear. Moreover, fear of pain experienced due to medical procedures in childhood usually will be continued up to adulthood. Pain management before the first painful medical procedure in children may reduce pain-related negative emotional and social experiences, reduce anxiety, fear, and distress, and contribute to having emotionally less complicated for future medical procedures. This management includes pharmacological and no pharmacological approaches**. (Nejla Canbulat et al 2014).**

Hospitalization and illness experienced by children lead to an unfamiliar environment and unpleasant feelings. Children undergo many medical procedures in hospitals, most of which can be traumatic, stressful and painful. Venous cannulation and invasive procedures such as intramuscular injection, withdraw blood and heel pricks are most hospitals performed medical procedures. Pain is a warning sign of physical harm. Pain is commonly undertreated. Pain is constituted as the subjective and personal experience of a person and two individual can't experience pain accurately at the same time**.(Anurani.A .et al 2013).**

Pain is considered more complex than a predictable reaction them sensory stimulation. An individual reacted to pain during a medical procedure is influenced by their pain perception mediated by such factors are age, developmental stages, emotional state, culture, previous experiences of hospitalization, type of medical procedure, coping abilities, environment, and responses of caregivers attitude. Most common medical procedures such as vaccination, withdrawing blood, venous cannulation, and intramuscular medications tend to be the most frequent, painful, and fearful procedures that children encountered in the hospital. Children who go through venipunctures experience moderate to severe pain. **(Kristy Petovello et al 2012).**

Fear is a negative feeling that is thought to arise as an alarm to a dangerous and/or life-threatening situation. Fear in children is common, can represent normative

developmental processes, and may be induced by experiences such as separation from parents, or going to school. Medical fears have been identified as a common subcategory of fear in children and, unlike other types of fear, may increase with age. Needle fears appear to be the most feared and painful experiences for children. Fear can increase pain perception. The bidirectional relationships between children's fear prior to needles and during needles are difficult to disentangle. However, differentiating between a child's experience of fear and pain is critical to an appropriate intervention**.((Meghan MC Murtry., et al 2011).**

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Paediatric patients presenting to the department of emergency, medical procedures are frequently painful, unexpected, and heightened by situational tension and anxiety leading to an overall unpleasant experience. Perceiving of pain in paediatrics is complex, and entails physiological, psychological, behavioural, and developmental causes. However, in spite of its frequency, pain in infants, children, and adolescent are frequently underestimated. It has been shown that infants and children, experienced pain in early life, show long-term changes in terms of pain experience and their related behaviours. Healthcare professionals responsibility to reduce pain and fear as much as possible while maintaining children safety**. (Rasha Srouji et al 2010).**

Nurses must also include non-pharmacologic intervention during procedures to reduce children's pain and fear in children .non pharmacological techniques, are

bubble blowing, playing music and reading are effective techniques commonly used by nurses and play therapists. Medical play, using relaxation techniques, positive reinforcement and desensitisation all help to decrease children's fear level. There are definite benefits when play therapy and non-pharmacological intervention are incorporated into the care of children undergoing treatments to manage pain and fear. Nurses must also include non-pharmacologic intervention during procedures to reduce children's pain and anxiety in children. Non-pharmacological techniques, are bubble blowing, playing music and reading are effective techniques commonly used by nurses and play therapists. Medical play, using relaxation techniques, positive reinforcement and desensitisation all help to decrease children's fear level. There are definite benefits when play therapy and non-pharmacological intervention are incorporated into the care of children undergoing treatments to manage pain and fear. **(Lisa Maccagno et al 2009).**

Recent advances in pediatric pain management have been reliant on multiple factors including knowledge of the developmental neurobiology of pain processing and developmental pharmacological of analgesic agents. Improved age-related tools for pain assessment and increased availability and accessibility of current best evidence in clinical practice guidelines. Effective management of pain in children is a major priority for children, parents, and health-care providers, and has been highlighted as a priority for Children's. There are marked age-related changes affecting all aspects of pain management including assessment, physical, physiological and pharmacological responses, and the importance of different clinical outcomes. **(Walker S.M. et al 2008).**

There are different approaches which include pharmacological and non-pharmacological methods among them nonpharmacological methods divided into physical and psychological techniques. A physical technique such as massage and counter stimulation. Whereas multi-component intervention is effective in decreasing pain and fear during various medical procedures. The goal of pain management among children in the pediatric health care system is to minimize the suffering of pain and hospitalization of children**. (Mclaren et al 2007)**

Pain, anxiety, and fear are common problems for children receiving medical care, vaccination, and pre-hospitalization the emergency room. The developmental age of the children determines the ability to cope and cooperate with a medical procedure. Younger children are almost more fear and pain than older children. Between the 7 to 12 years children are able to rate the intensity of fear and pain which help to select the intervention for pain and fear. **(Lim et al 2006).**

NEED FOR THE STUDY:

Non-pharmacological pain relief methods are used in school age, previous literature proved an audio-visual distraction, explanation, therapeutic touch, encouragement, guided imagery as the most effective methods. It has displayed that audio-visual distraction is an easy and simple way technique to relieve pain and fear in children during medical procedures as effectively common interventions in hospital. Theoretically, distraction is attractive, the greater the pain relief, but evidence shows that engaging children in more distracting activities during the procedure can be a counter problem of intervention. However, some distracters seem to have no appeal on adolescents undergoing repeated veniepuncture procedures**. (A. Bagnasco, et al 2012)**

In a hospital setting, children frequently experienced unpredictable and severe medical procedure-related pain and fear. It can be associated with negative impact, physical and psychological implications. Medical procedures, particularly needles, are among children most feared experiences. Reports from parents, nurses and children consistently indicate that many children fear the “shot 50-80% of all hospitalized children. Audio-visual distraction is the most effective. An audio-visual distraction like cartoon distraction is a simple, and easy to administer therapy that relieves pain and fears in children during intravenous injection and medical procedures as equally and effectively as common psychological interventions. **(Baljit Kaur et al 2014)**

The developmentally appropriate video game distraction is a potentially efficacious acute pain management technique for preschool-aged children. Participants children are demonstrated higher cold pressor pain tolerance during both interactive and passive video game distraction when compared to baseline. Effect sizes were comparable to that found in the meta-analysis. These improvements didn't

appear to be the result of repeated exposure to the cold presser. **(Elaine M Wilson-Smith 2011).**

The developmentally appropriate video-game distraction technique is a potentially efficacious acute pain management technique for preschool-aged children. Participants children are demonstrated higher cold- pressor pain tolerance during both interactive and passive video game distraction when compared to baseline. Effectiveness was found in the meta-analysis. These improvements didn't appear to be the result of repeated exposure to the cold presser. **(Elaine M Wilson-Smith 2011).**

A medical procedure is a fearful and stressful experience for hospitalized children. The reason increased feelings of fear in hospitalized children can negatively feeling their healing process, their behavior and their psychological health, cognitive, and academic development of the children. These negative results analysis knowledge about interventions that could contribute to a decrease in Pain and fear in hospitalized children is needed for nurses and parents. **(Lieselotte Van Dijk et al 2017).**

Hospitalization can be a fearful and stressful experience for children, because of unfamiliar with the environment and medical procedures and unknown of the reasons for hospitalization; it can result in children's anger, uncertainty, fear, pain and feelings of hopelessness. Fear is the most commonly reported negative impact, and high levels of increased fear can be harmful to psychological and physiological health. Increased fear also impedes children's efficacy in coping with medical procedures and increases their uncooperative behavior during procedures and negative feelings towards healthcare professionals. **(William H. C. Li 2016).**

A study was conducted among 75 school-age hospitalized children undergoing the painful medical such as procedure Intravenous medication was divided into three equal groups, 25 in active distraction group, 25 in passive distraction group and another 25 children in control group. The study concluded that active distraction is effective in reduced the intensity of pain in school-age children greater than in passive and no distraction techniques**. (Hewida A. Hussein et al 2015).**

The study was designed for assessing the role of music therapy in the level of anxiety in children aged 9-12 years old. Sixty hospitalized children were categorized into the intervention case are 30 and the control groups are 30 by using a simple

randomized method. The information gathered was questionnaires which included the demographic characteristics and anxiety using by trait anxiety inventory for children (STAIC). The study explained that for hospitalized children, music therapy reduced the anxiety level .**(Shida Kazemi et al 2012).**

The investigator, during her clinical posting, observed that most of the children are undergoing intravenous canulation and find it difficult to cope with pain and fear of hospitalization and medical procedures. So the investigator felt that the there is a need for an interaction to give comfort and to reduce fear and pain experience of hospitalized children, the review of the literature and clinical experience with children motivated the researcher to take up a study to assess the effectiveness of coping strategies on pain and fear of hospitalization among school age children

STATEMENT OF THE PROBLEM

A Study to assess the Effectiveness of Coping Strategies on Pain and Fear of hospitalization among Children admitted at Kovai Medical Center and Hospital, Coimbatore.

OBJECTIVES OF THE STUDY:

1. Describe the level of pain and fear among children admitted in hospital
2. Evaluate the effectiveness of pain and fear of children in medical play
3. Evaluate the effectiveness of pain and fear of children in balloon blowing.
4. Compare the effectiveness of medical play and balloon blowing in regarding pain and fear.
5. Correlate the level of pain and fear of children in both groups.
6. Associate the demographic and clinical variables of children with pain and fear of hospitalization among both groups.

OPERATIONAL DEFINITIONS:

COPING STRATEGIES: It refers to the medical play for one group and balloon blowing for another group.

Group – I: Receives Medical Equipments and items to handle for 15 min prior to the procedures.

Group - II: Receives balloon blowing for 15 min prior to the procedures

Pain: It refers to an unpleasant sensory and emotional experience associated with actual or potential tissue damage as measured by Wong-Baker Faces Pain Scale

Fear: It refers to an unpleasant emotional state consisting of psychological and physiological response to a hospitalization and medical procedure as measured by Child Medical Fear Scale

HYPOTHESES

- H1: There is a significant difference between pre and post procedural Pain and Fear who received medical play
- H2: There is a significant difference between pre and post procedural pain and fear who received balloon blowing.
- H3: There is a significant difference in the post test pain and fear and fear between medical play and balloon blowing.

ASSUMPTIONS:

- Hospital environment is strange which enhances pain and fear of hospitalization and procedures done.
- Changes in care giving pattern in the hospital increases fear.

CONCEPTUAL FRAMEWORK

Theoretical model for this study was based on modified comfort theory revised in 2011 by Dr.Katherine Kolcaba's. The theory .The theory explains about a physical , psycho-spiritual , sociocultural and environmental aspects of comfort contribute to a proactive and multifaceted approach to care .The core concepts of the theory are :

1. Health care needs and intervening variables

Health care need is to provide comfort for hospitalized children undergoing medical procedures.

Intervening variables are defined as interaction forces that influence recipient's perception of total comfort. In the present study, the variables consist of Age, Sex, Type of family, Presence of parents with the child, Present diagnosis, Duration of present stay, Number of previous admission.

2. Nursing Intervention:

Nursing intervention includes providing care of unmet needs.

In the present study, the sample selected for two group were distracted with medical play to group I and balloon blowing to group II for fear and pain of hospitalized children.

3. Outcome:

- **Group I:** Significant reduction of post intervention pain and fear among hospitalized children in medical play
- **Group II:** Significant reduction of post intervention pain and fear among hospitalized children in balloon blowing.

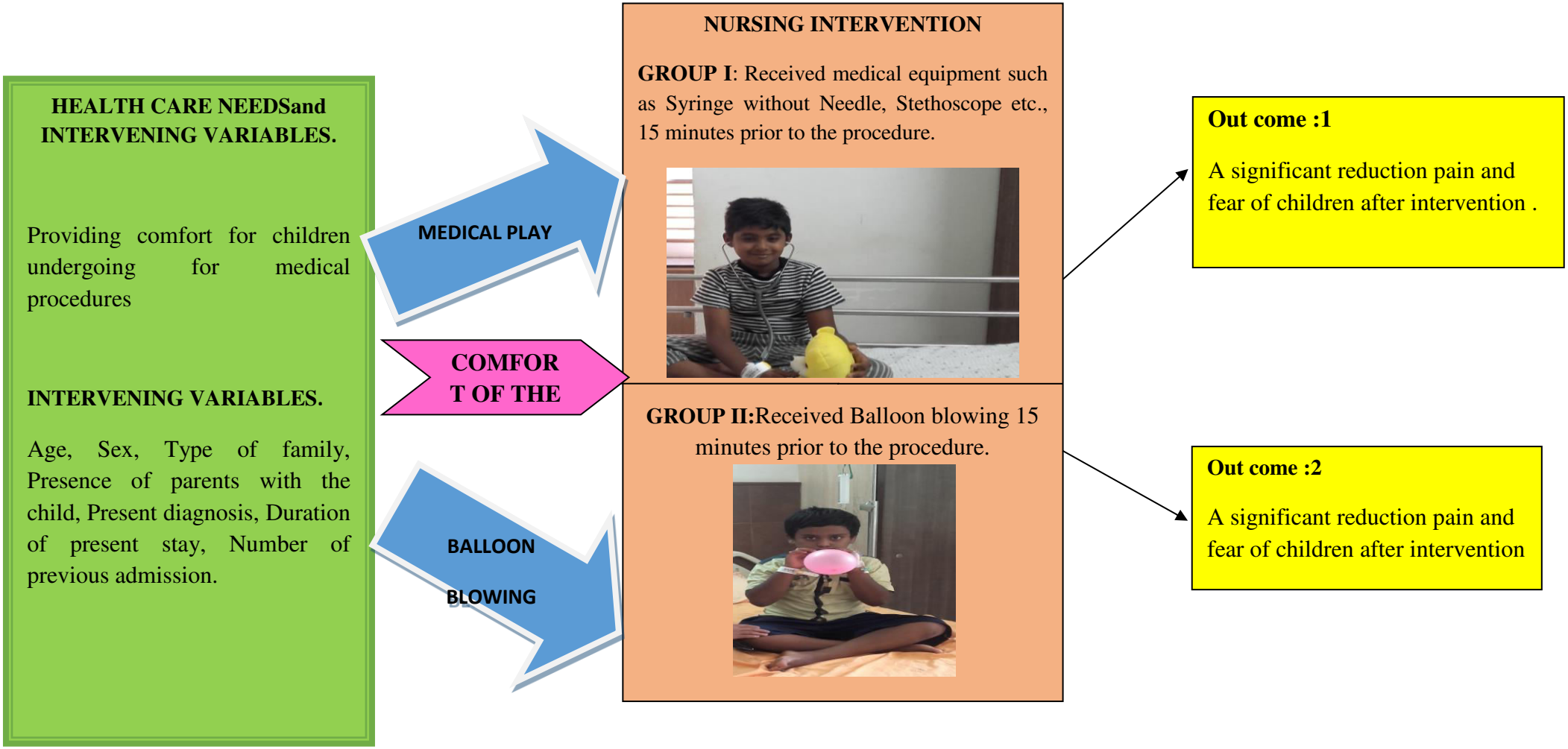


Fig 1 : Modified Karthrine Kolcaba's Comfort Theory (2011)

CHAPTER - II

REVIEW OF LITERATURE

A literature review is a resources that provides the ground work for further study. A thorough literature review provides a foundation upon in which the new knowledge is built. The literature review are grouped under following headings.

SECTION A : Pain of hospitalization among children

SECTION B : Fear of hospitalization among children

SECTION C : Non pharmacological intervention to reduce pain and fear of hospitalization

A cross-sectional study was to assess the knowledge and factors among 261 nurses to conducted with pain management for hospitalized children. The study showed that nurses had adequate knowledge 58.6% and 55.8% had the good practice. The study concluded that knowledgeable on some of the pharmacological and non-pharmacological pain management among nurses. Most of the nurses had a good knowledge of children pain management in paediatric care units. **(Remla Miflah et al 2017).**

A descriptive study was conducted among 92, working nurses in 17 universities of the hospital on postoperative pain relief among 6-12 years of children. It determined the majority of the nurses were given information about post-operative observation 76.3% and post-operative pain 76.1 %.In addition; they have been encouraging children to ask about misconception 69.6%. The study concluded that non-pharmacological methods are effective in children's post-operative pain relief**. .(Emine efe et al 2017) .**

A cross-sectional survey to assess the pain prevalence in hospitalized children 0-18 years.VAS and FLACC scale used to assess the pain level. They enrolled 570 pediatric patients asked to report their pain experience and its management during previous 24 hours.213 children(27%) responded That they had experienced pain in the previous 24 hours.134 children (24%) indicates moderate to severe pain and 43% preferred an intervention to alleviate the pain.T he study showed

that the prevalence of moderate or severe pain was significantly ($p<0.001$) higher compared to children admitted in the same day.**(Walther Larsen et al 2016).**

A cross-sectional study was done the pain outcomes in hospitalized children. Needle pokes (40%) worst pain reported by patients, followed by (34%) trauma and injury. Children and parents rated 5 integrative, non-pharmacologic modalities as more effective than medications. 58% of patients covering the 24-hour period before the morning census for pain management and assesses were documented in the case sheet. The most prescribed pain analgesics were morphine and acetaminophen. **(Stefan J. et al 2015).**

A study was done to assess the pediatric pain management in healthcare professionals. 92 health professionals worked in pediatric care wards, pediatric intensive care unit, and neonatal intensive care. Respondents results showed that 30% was the use of instruments for pain assessment, 73% was reported prescribed pharmacological treatments for symptoms of pain, and 26% reported the use of non-pharmacological interventions for the relief of pain in reported was 26 %. The study showed that the health professional's opinions of pain increasing pain assessment and management policies in the hospital. **(Maria Beatriz Martins Linhares et al 2014).**

A cross-sectional survey used to assess the prevalence and treatment patterns in a children's hospital. Data collected by a child or parent interview 72% was more than twice that documented by nurses 30%. The procedural pain was poorly documented in the medical record.50% of children with documented moderate to severe pain receiver scheduled pain medications. The study concluded that need for quality of pain management provided to hospitalized children. **(Kyrie shoemaker et al 2015).**

A study to evaluate the relief of pain and fear of 100 children. Who was on 97 % intravenous cannulation, 5% endotracheal intubation and 28% lumbar puncture. Training had provided for 70% of children in the emergency department Nonpharmacologic fear and pain reduction was used in 35% of children. 5% of Family members presence was allowed. Previous hospitalization pain controlling was begun on 20% of children and it was continued at 40% of children. At the time of hospital discharge, 40% prescribed pain analgesics. **(Ahmadshah Farhat et al 2013).**

Assessment of pain was documented once within 24 hours for 2,615(68.4%) children, 1,097(28.7%) with a pain measures alone using a pain narrative alone 1,006(26.3%) and both measures are narrative 512(13.4%). The assessment was conducted with validated measures about 28%. Standardized mean pain score was 2.6/10 and standard deviation 2.8 .however 33% of children had moderate to severe pain have pain score documented. .**(Bonnie J. Stevens 2012).**

The study was conducted among 107 inpatients children from 3 weeks to 18 years. Including current, worst, and usual pain, pain treatment threshold, sources of pain and help received during the previous 24 hours. The results showed that 94% of children experienced pain .prevalence of clinically significant pain was 8% current, 62% worst ,and 24% usual caregiver responses and non-pharmacological intervention frequency reported >90 %but in frequencies documented <50 %, and 66% received pharmacological intervention .the study concluded that children procedural pain is preventable and should be targeted given the utilization of pain management strategies.(**Kathryn A Birnie et al 2014)**

A prospective cross-sectional study was found that prevalence. Intensity, assessment, and management in the pediatric unit. In patient children's 290 were interviewed. Its result was found that 27% of children had pain before admission, 77% of children experienced pain during admission and 23% of children had moderate to severe pain sometimes present in the previous 24 hours. The received analogize to reduce the pain at $p<0.01$ level of significance. The study recommended that follow the pain management strategies in the pediatric care unit. **.(Elsa M Taylor et al 2008).**

SECTION B: Fear of hospitalization among children

A Study was done to assess the effectiveness fear of school-age children and parental perception of nursing care support during hospitalization of children. 60 hospitalized children and parents were taken. The result found that 91.67% of the school-age children had moderate fear and high fear of hospitalization of 8.33 %. The majority of parents have fully satisfactory previous hospitalization nursing care support 70% and 30% were satisfied with the nursing care support provided during their children hospitalization. The nurses should be encouraged the children to express

their fears and they are evaluating their coping strategies. **(Helma Maria Montario et al 2014).**

Preoperative anxiety complicates to assess and manage for nurses in the pediatric care unit. Images or videos are helped to support cooperate and communicate with the children during procedures. The study was used State-Trait Anxiety Inventory scale (STAI) using a modified Talking Mats method in children undergoing on the day of surgeries. 42 children have participated aged 3 to 9 years. The children's anxiety assessed by parents, independently, by scoring the short STAI. The study result found that moderate anxiety for 7 to 9 years of age group. The result showed that reduce the anxiety $p< 0.05$ level of significance**. (Stefen Nilson et al 2012).**

A cross-sectional descriptive study was conducted on the measurement of anxiety in 3-9-year-old children. were 293 children interviewed. Lehman Picture Test for used to assess the anxiety of children. Males children had an average mean score of anxiety(4.0) and females children obtained a low mean score of anxiety (3.6). There was a highly statistically difference in $p<0.001$ between the mean anxiety scores among children. The study concluded that children aged 3 to 4 years old children obtained the maximum anxiety when compared to children aged 5 to 9 years..**(Febby G. Cardinal 2017).**

Child-reported the coping strategies for hospital procedure related fears in 4–6-year children. Were collected by interviews of 4–6-year-old.34 children were interviewed in hospital, and 48 in kindergarten. The most often child-reported coping strategies were: The presence of family members and parents (81/517, 15.7%), the help of the hospital workers (58/517, 11.2%), positive images (57/517, 11%), play (57/517, 11%) and the child's own play items (45/517, 8.7%). The children interviewed in the hospital significantly more often play ($P < 0.000$) in their coping strategy than children interviewed in a kindergarten. Children interviewed in kindergarten expressed significantly most frequently the presence of parents $p<0.032$) and the help of a doctor ($P < 0.012$) as their coping strategy than the children interviewed in the hospital settings. The study concluded that children had many coping strategies, especially ones in which the children themselves play an active role in the hospitalization. **(Marja Salmela et al 2010).**

A cross-sectional study was conducted among children in 1522 boys and girls from schools age participated in this study. The tool was used to assess the dental fear was Children's Fear Survey Schedule-Dental Subscale (CFSS-DS). Children's previous dental experience used to collect information from the parental questionnaire. The response rate of the questionnaires was 78.6%. The mean CFSS-DS score was 25.99. The result showed that younger children, girls, school-age children were significantly more fearful than older children, boys, and school children, significant ($P < 0.001$). Children who showed dental fear during the dental examination were significantly more fearful than those with good behavior ($P< 0.001$). **Mohammad A. Alshoraim 2016).**

A study was conducted to explore the experiences children of being fearful of 29–item Likert-type questionnaire was developed based on interviews with 140 school-age children are participated. Remaining 84 children were then administered the Child Medical Fear Scale (CMFS) in school settings. There were no significant differences ($p<0.05$) in overall fear scores for children of different age groups. However, younger children did rate certain items related to procedures as most fearful. There were no strong, significant relationships between reported fear levels and gender, race, or other sociodemographic variables. **(Marion E. Broome et al 2009).**

A prospective, randomized controlled trial consists of 123 children ages 6 and 12 years old children were randomly assigned into two groups. The pain and fear were measured by using faces pain Scale-by parent and observer report. Result revealed that the experimental group had significantly $P<0.01$ lower pain level and fear during than control group phlebotomy procedure. The study result found that distraction is the effective method of relief from pain and fear. .(**Inal et al 2012) .**

SECTION C: Non Pharmacological intervention to reduce pain and fear of hospitalization.

A study to assess the ice application on pain response during medical procedures among school-age children. Two groups post-test only design. The sample

size was 60 children were taken six to twelve years old children have selected participated in the study. The study result found that the mean score in the experimental group was 0.66 and in the control group was 8.93. The t-test value was found 24.817 significantly at $p<0.01$. The study result found that the ice application is a reducing pain in children during intravenous procedures. **(Neha Sunil Gaikwad et al 2017).**

Prospective, randomized, controlled study was a distraction with videos in reducing anxiety and pain in children subjected to venipuncture in pediatric emergency among 3 to 11 years children. The tools were used to assess the pain and anxiety were child anxiety-Groninger Distress Scale, Wong-Baker scale .140 children were selected, 70 per group. Significantly, anxiety at $p<0.001$ and also pain level $p<0.001$ were lower in the video-distraction group. There were differences in anxiety and previous venipuncture history at $p<0.001$, but no differences in pain level and previous venipuncture. Age-based differences in pain level, this being higher for children 3-5 years old at $p <0.007$. There was a strong positive correlation between anxiety and pain $r=0.5$. The study concluded that video-assisted distraction is the effective method in hospitalized children**. (Miguez-Navarro et al 2016).**

The study was undertaken the comparing the effectiveness of Video-Assisted Diversional (VAD) therapy and application of local anesthetic (LA) agent on pain relief, behavioral response and physiological parameters among children. Post-test only control group design was used. The children were randomized to one of the three groups, 25 in each group. Experimental group 1 received video-assisted diversional therapy, local anesthetic agent (LA) received experimental group 2, and the control group received only routine care. The post-interventional pain scores in the 2 experimental group were lesser than those of the control group. There was a significant at $p<0.001$ difference between the two interventional groups. In behavioral response, the experimental group 1 found a significant at $p< 0.001$ reduction of behavioral distress than the experimental group 2 and control groups. The rate of respiration during and post-cannulation in the VAD group physiological parameters, a significant difference was seen. Both, group 1 and group 2 showed a reduction in the systolic blood pressure post cannulation. VAD therapy and LA during IV cannulation are equally good for pain reduction in the children, with highly acceptable for

reducing behavioral distress and physiological parameters in VAD. **(Litna George et al 2015).**

A quasi-experimental study was done to Compare between the Analgesic effect of two techniques on the level of pain perception during venipuncture in Children up to 7 Years old children. 70 children admitted to the pediatric care unit, 35 children in each group.Group 1-child held by family member during venipuncture and Group 2 -child held by family member along with an animation distraction during venipuncture and video clippings made for each subject in groups I and II .FLACC pain scale was used to assess the pain level in both groups. The study Findings showed that the mean pain score of Group 1 (3.86)and Group 2 (2.43). Findings showed that in Group 1 majority 31(88.57%) got severe pain. In Group 2 majority 10(28.58%) got moderate pain, 09(25.71%) and severe pain got 07(20%). The comparison both groups was checked statistically by computing t-test and the value of 7.199 at $p<0.000$ which was showed to be highly significant. **(Harsh Vardhan Gupta et al 2014).**

A study was done to assess the effectiveness of distraction intervention for pain relief, fear and discomfort child in needle-related procedures.690 children were selected .children, between 1 to 18 years were examined during the medical procedure. The interventions are controlling breathing, muscle relaxation, and visual imagery. The outcome measured of pain and fear level is significant at $p<0.05$ level. The study showed that distraction therapy is the effective method to relieve pain and fear**. (Kung et al 2013).**

A study was done to assess the effectiveness of therapeutic play on the level of fear among hospitalized children between 3-6 years children. 60 children participated. The tool was collected by an observational checklist. The play was given to the child for 2 hours on each day for 3 days. The statistical analysis showed that mean value from 43.93 in the pre-test to 31.86 in the post-test. The 't' test highly significant at $p<0.001$ level significantly reduce the fear in post-test .so therapeutic play is effective. **(Malathi et al 2011) .**

Using a mixed model design, this study designed the effects of interactive versus passive distraction on healthy pre-school-aged children's cold pressor pain

tolerance .61 children aged 3-5 years were selected to, interactive distraction, passive distraction or no distraction control group. Children received the alternate distraction intervention. Controls participated routinely care The results showed that significantly higher pain tolerance p<0.01level of significant during both interactive and passive distraction relative to baseline. The two distraction conditions effective and did not differ. The study showed that Interactive and passive video game distraction appear to be effective for preschool-aged children during laboratory pain exposure. **(Karen E. Weiss,et al 2010).**

The audiovisual distraction was used to assess the effectiveness of reduction of self-reported pain in a randomized controlled study to find out the efficacy of non-pharmacology methods receiving venipuncture in a pediatric department among 300 children from 8-9 years old. The sample was randomized into three groups audiovisual distraction group, intervention group, and control group, each group with 100 members respectively. The visual analog pain scale used to assess the pain level in the children. Venous cannulation time increases were significantly in the control group than the other two groups significantly at p <0.05. The distraction improved patient co-operation and increased the rate of success in at p=< 0.05 in the audio-visual distraction and intervention group during Venipuncture procedures**.(Wang et al., 2008).**

The study is a prospective study was conducted to assess three different distraction methods such as distraction cards, listening to the music of cartoon and balloon inflation on pain and fear relief for children during phlebotomy. 6 to 12 years old children performed. The self-reported procedural pain levels showed significant differences among the study groups 0.040. The distraction card group 2.33+3.24 had significantly lower pain levels 0.057 than the control group 4.53+3.23. The medical procedural child fear levels reported by the observer showed a significant difference among the study groups 0 .032. All distraction intervention significantly reduced pain and fear perception **(Nejla Canbulat 2014).**

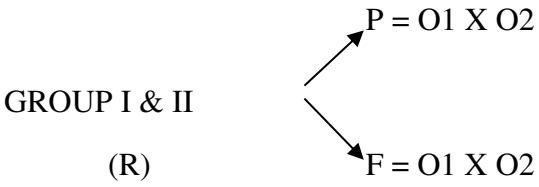
CHAPTER-III

METHODOLOGY

This chapter describes the methods adopted for the study. It includes research design, variables under study, setting of the study, population, sample size, sampling technique and description of tools, procedure for data collection and data analysis.

RESEARCH DESIGN

The research design for this study was True - Experimental two- group pre-test and post – test design.



R - Randomization

P - Pain

F - Fear

O1 - Pre- test assessment of pain and fear of children in both groups.

X - Planned medical play or balloon blowing

O2 - Post-test assessment of pain and fear of children in both groups.

VARIABLES UNDER STUDY

The independent variables were medical play and balloon blowing. The dependent variables were pain and fear of hospitalization among children.

SETTING OF THE STUDY

The study was conducted in Paediatric ward at KMCH, Coimbatore. It is a 850 bedded NABH accredited super specialty hospital with excellent health care delivery system for the which has separate paediatric ward, around 400-500 children are admitted every month .In which average 75-80 children fall into the age group of 8-12 years age group. In general all children who get admitted are undergoing medical procedure such as venipuncture to draw blood and administer IV medications.

POPULATION OF THE STUDY

The population includes all children admitted in Kovai Medical Center and Hospital between the age group of 8-12 years undergoing painful procedure.

SAMPLE SIZE:

The sample size was heterogeneous group of 60 Children, 30 for medical play and 30 for balloon blowing.

SAMPLE TECHNIQUE:

The sampling technique adopted for the study was purposive convenient sampling.

RANDOMIZATION:

Permuted block randomization.

CRITERIA FOR SAMPLE SELECTION

Inclusion Criteria

- Children between the ages of 8-12 years.
- Children who are conscious and oriented.
- Both sex are included.

Exclusion Criteria

- Critically ill children
- Children who are mentally retarded.
- Children who are staying more than 10 days in hospital.
- Children who are undergoing surgery.

DEVELOPMENT AND DESCRIPTION OF THE TOOL:

Development of the Tool: The demographic variables and Clinical characteristics are developed by the researcher for pain the WBFPS was adopted and for fear the child medical fear scale was modified and adopted.

The child medical fear scale (CMFS) as developed by Broome (1990) and Wong-baker faces pain scale is a standard scale (WBFPS) developed by Wong D.L Hockenberry E.M, Wilson D in the year 2001. The prepared tool was submitted to experts in the field of paediatric medicine and nursing for validation.

Description of the Tool:

Section A: (a) Demographic variables of children

(b) Clinical characteristics of children

Section B: (a) Modified CMFS scale

(b) WBFPS scale

Section A: (a) Demographic variables

The demographic variables of the child includes age, sex, Type of family, presence of care giver with the child.

(b) Clinical characteristics

The clinical characteristic of the child include present diagnosis, duration of present stay, number of previous admission, physiological parameters such as HR, RR, Saturation and body temperature.

Section B: (a) Modified CMFS Scale

Modified Child medical fear scale includes all the items of CMFS except items 2, 12, 16, 24, 26 which are inappropriate items for hospital environment. The original score 3,2,1 was adapted as it is with the altering the scoring .The items are reduced from 30 to 25.

3 = A lot afraid

2 = A little afraid

1 = Not at all afraid

The maximum score is 75 and minimum score is 25.

b) WBFP Scale

The Wong-Baker Faces Pain scale is a standardised tool.The tool consists of a series of 6 cartoon faces range from very happy to very sad and tearful expressions, placed horizontally on a piece of paper.This instrument is treated as a Likert Scale with scoring as follows:

0 - No hurt

2 - Hurts little bit

4 - Hurts little more

6 - Hurts even more

8 - Hurts whole lot

10 - Hurts worst.

The maximum score is 10 and minimum score is zero.

VALIDITY:

The prepared tool was submitted to experts in the field of paediatric medicine and nursing and the suggestion were included and the tool was modified, for the present study.

RELIABILITY:

The test-retest reliability of CMFS scale was found by Chaiyawat. W that coefficient r = 0.80 .The test retest reliability of Wong-Baker faces pain scale was 0.75 and was checked by Wong .D.L and Hockenberry E M.

PILOT STUDY:

In order to find out the feasibility of the study , a pilot study was conducted among was 20 children who were not involved in main study .independent – samples paired t –test value was 10.770 significantly $p < 0.001$ and showed it was feasible .

DATA COLLECTION PROCEDURE

The data collection was done for a period of 6 weeks. Ethical clearance was obtained from Ethical Committee, Kovai Medical Center and Hospital to conduct the study. The same information was communicated to the consultant paediatricians and parents .The demographic profile and clinical characteristics of the child was collected from the parents and case sheet .The sample were selected according to the inclusion criteria and the children were allotted to group I Pre-test and post –test was conducted for pain by using WBFPS for fear using MCMFS . Children in Group 1 was given medical play 15 minutes prior to the procedure in the presence of the investigator. Pain and fear was assessed during and 30 minutes after the procedure for 30 samples. Children in Group II received balloon blowing 15 minutes prior to the procedure. Fear and pain was assessed before and after test .children were comfortable and confidentiality was maintained throughout the procedure.

STATISTICAL ANALYSIS

The obtained data were analyzed using both descriptive and inferential statistics. Descriptive statistics such as mean, standard deviation and frequency percentile are used to describe the demographic data. Inferential statistics such as 't' Test and Chi Square Test, ANOVA, Spearman correlation was used to prove the set hypothesis and to achieve the objectives .

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis and interpretation of data collected from the samples to determine the Effectiveness of Coping Strategies on Pain and Fear of hospitalization among Children admitted at Kovai Medical Center and Hospital, Coimbatore. The statistical findings are as follows:

Section A - Description of demographic and clinical variables of children.

Section B - Description of Pain and Fear score of children in medical play and balloon blowing group.

Section C - Comparison of Pain and Fear among children in both groups.

Section D - Correlation between Pain and Fear of children in both groups.

Section E - Association of level of Pain and Fear among children with selected demographic and clinical variables in both groups.

Section A

Description of background characteristics of children.

Table 1: Description of demographic characteristics of children in both groups.

(N = 60)

S.No	Characteristics	Medical play		Balloon blowing	
		f	%	f	%
1	**Age**				
	a)8-10 years	18	60	16	53.3
	b)10-12 years	12	40	14	46.7
2	**Sex**				
	a)Male	14	46.7	13	43.3
	b)Female	16	53.3	17	56.7
3.	**Type of family**				
	a)Nuclear	16	53.3	22	73.3
	b)Joint	14	46.7	8	26.7
4.	**Presence of parents with the child**				
	a)Mother	28	93.3	29	96.7
	b)Father	2	6.7	1	3.3

The above table describes the demographic characteristics of the children in both groups. Majority of children belong to 8- 10 years of age 60% (18) in medical play and 53.3% (16) in balloon blowing. Regarding sex female dominates than male 56.7%. 73.3% were nuclear family.Most of the parents were with the child (93.3%, 96.7%) in both groups.

Table2: Description of Clinical Characteristics of Children in both Groups.

(N=60)

S.No	Characteristics	Medical play		Balloon blowing	
		f	**%**	**f**	**%**
1.	**Present Diagnosis**				
	a)Fever	16	53.4	15	50.0
	b)Seizure disorder	7	23.3	9	30.0
	c)Gastrointestinal problems	7	23.3	6	20.0
2	**Duration of Present Stay**				
	a) < 5 days	20	66.7	19	63.3
	b) > 5days	10	33.3	11	36.7
3.	**Number of previous admission**				
	a) < 3 times	12	40.0	7	23.3
	b) > 3 times	7	23.3	12	40.0
	c) Nil	11	36.7	11	36.7

The above table describes the clinical characteristics of the children in both groups. Majority of the children were admitted with fever in both groups (53.4%, 50%). Previous admission <3 times 40% in medical play >3 times 40% in balloon blowing.

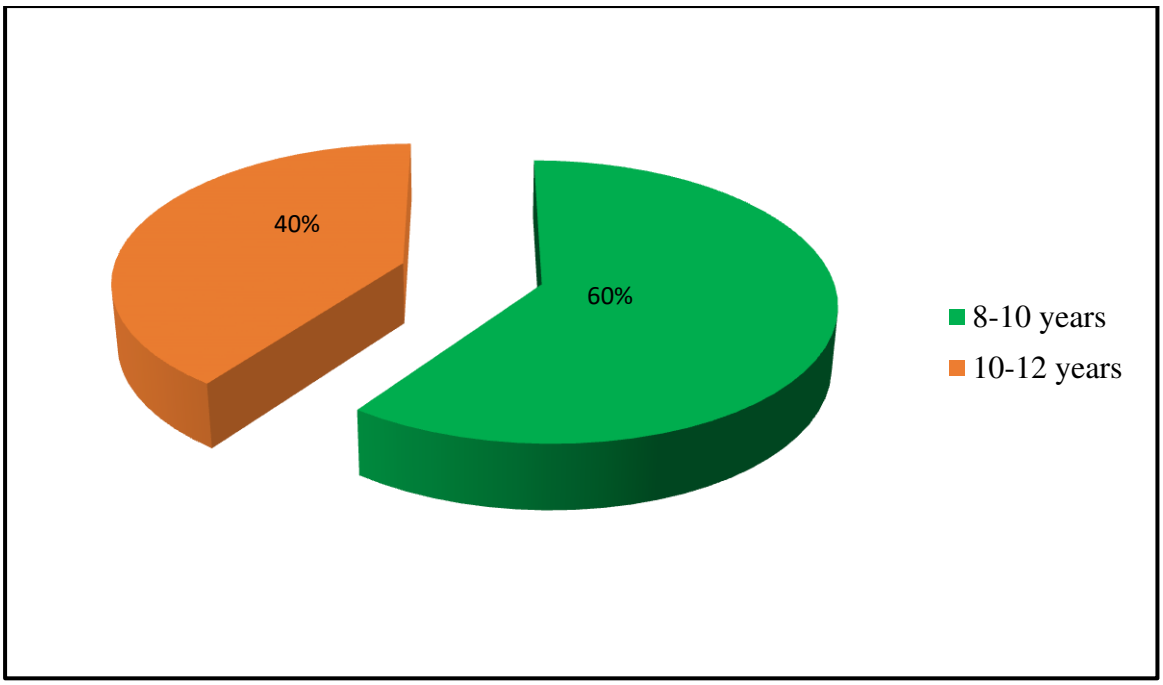


Fig 2: Distribution of children according to their Age in medical play group

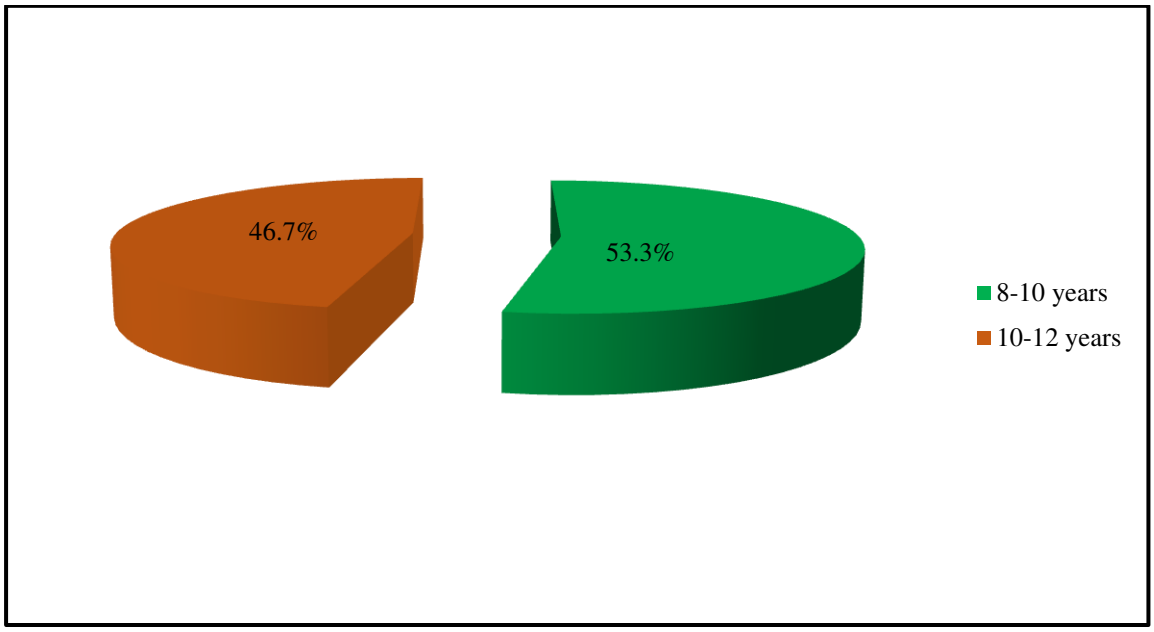


Fig.3: Distributed of children according to their Age in Balloon blowing group.

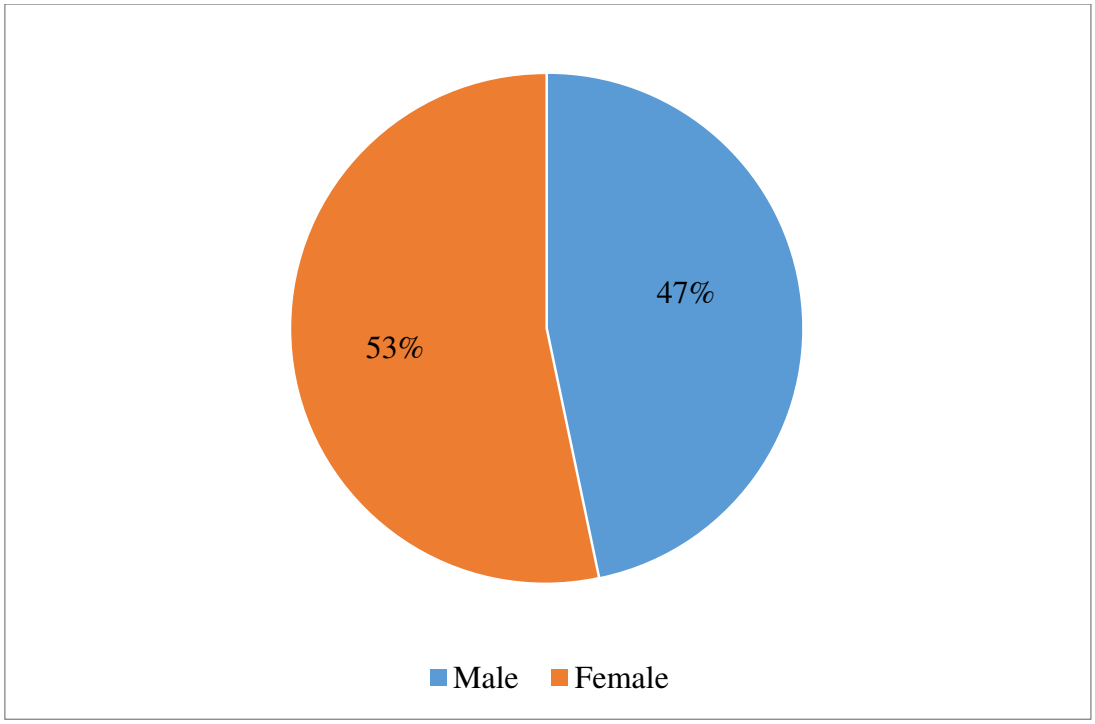


Fig 4: Distribution of children according to their Sex in Medical play group.

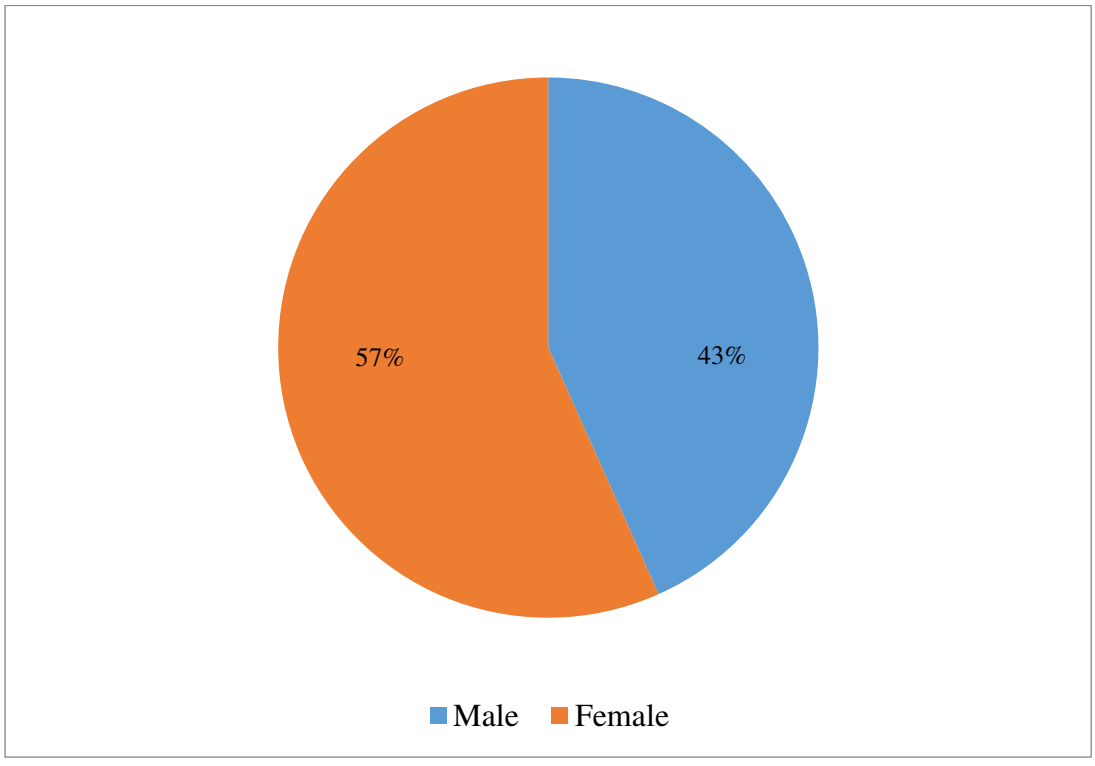


Fig 5: Distribution of children according to their Sex in Balloon blowing group.

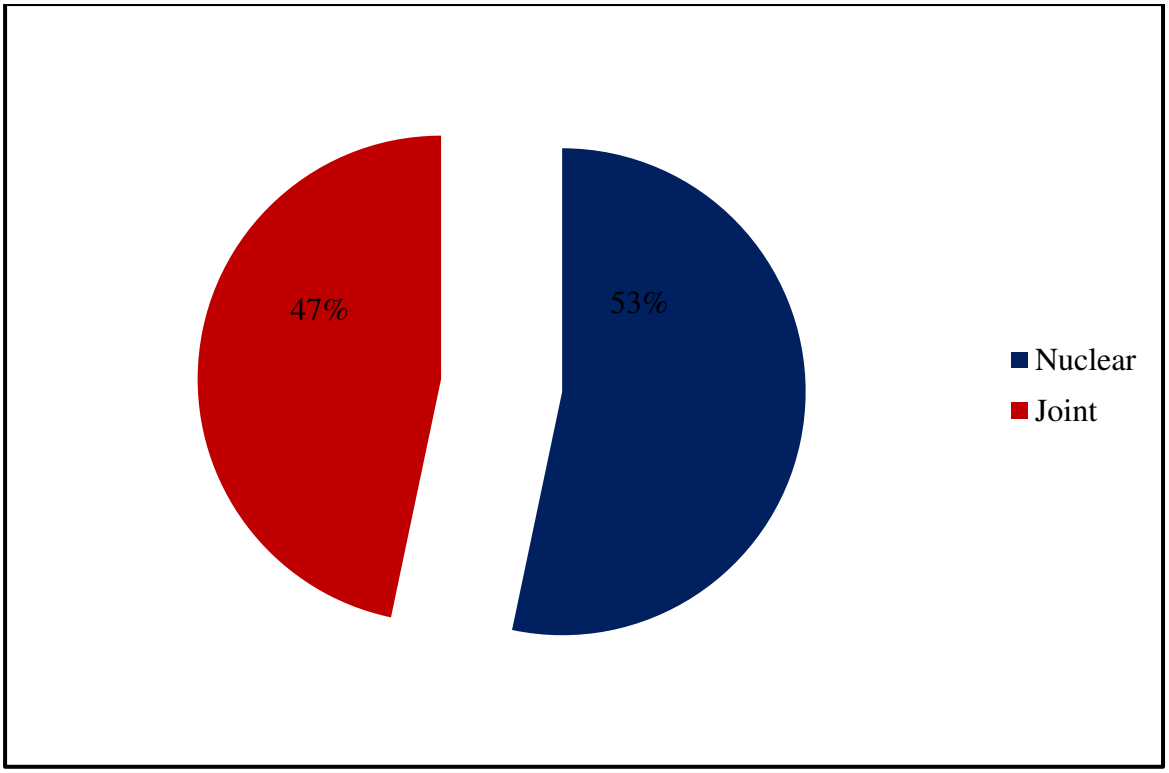


Fig 6: Distribution of children according to their Type of family in Medical play group.

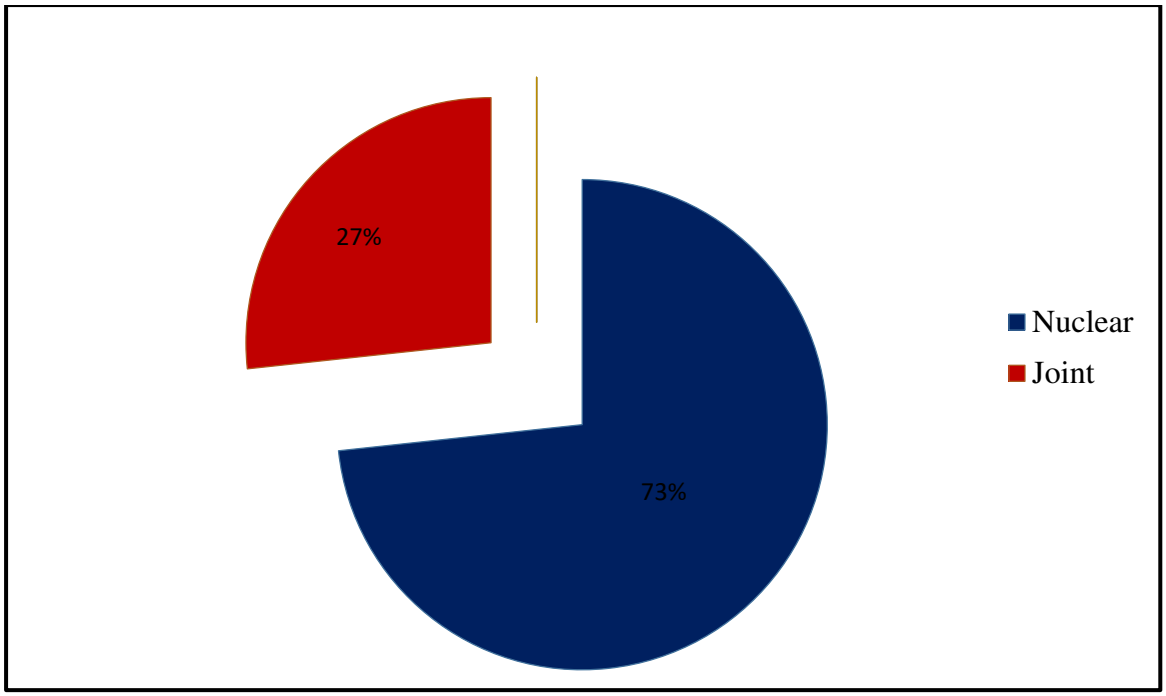


Fig 7: Distribution of children according to their Type of family in Balloon blowing.

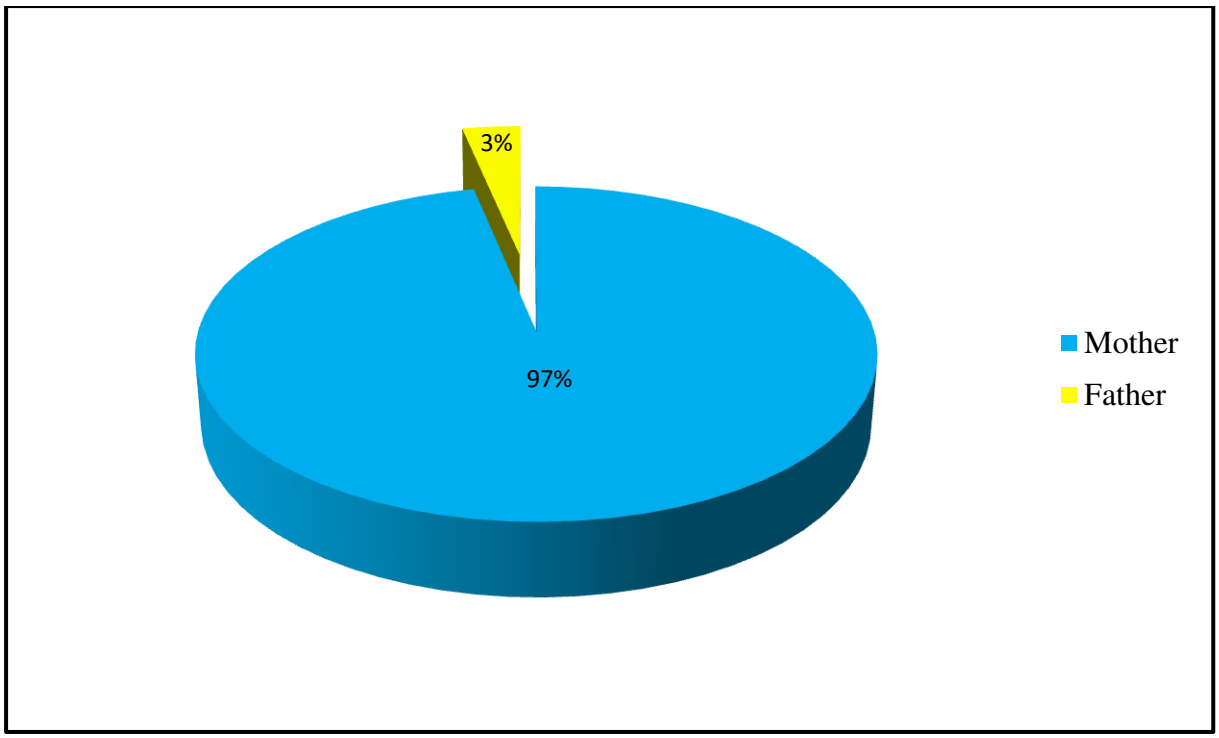


Fig 8: Distribution of children according to the Presence of parents with the child in Medical Play Group.

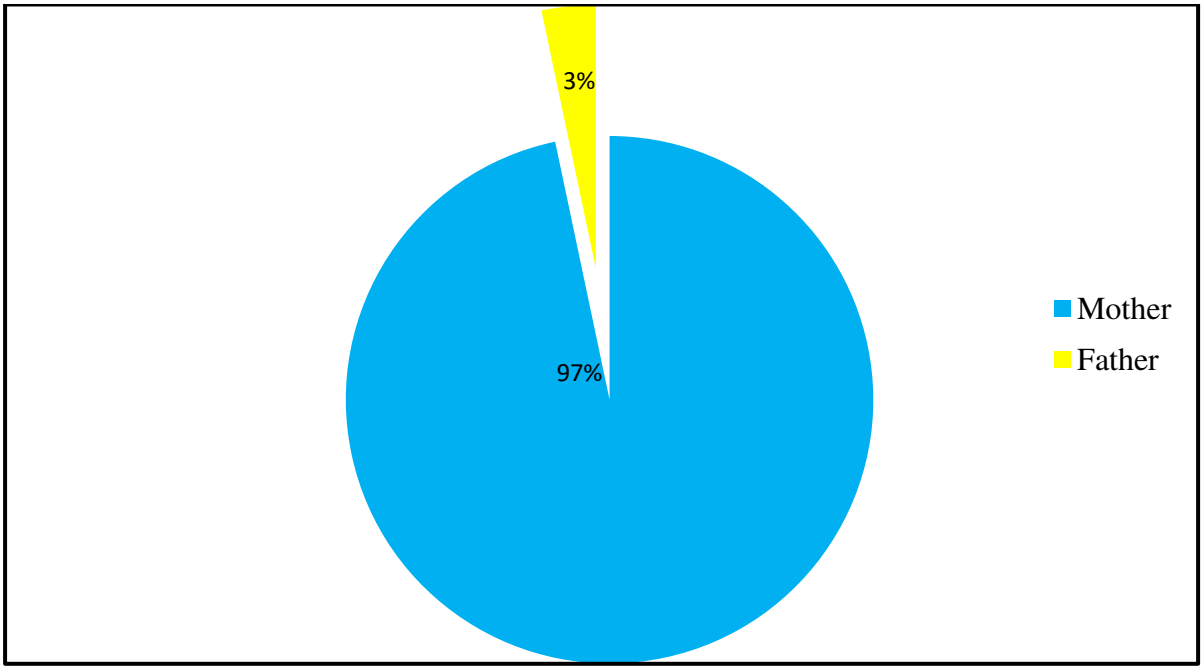


Fig 9: Distribution of children according to the Presence of parents with the child in Balloon Blowing group .

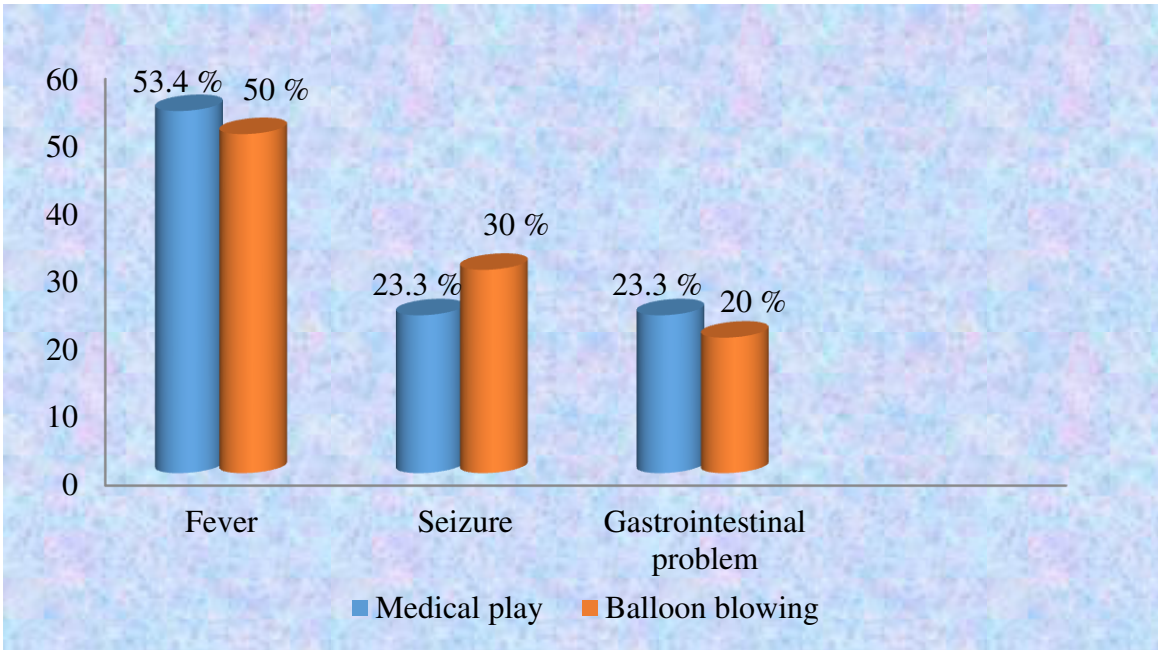


Fig 10: Distribution of children according to their Present diagnosis among both groups

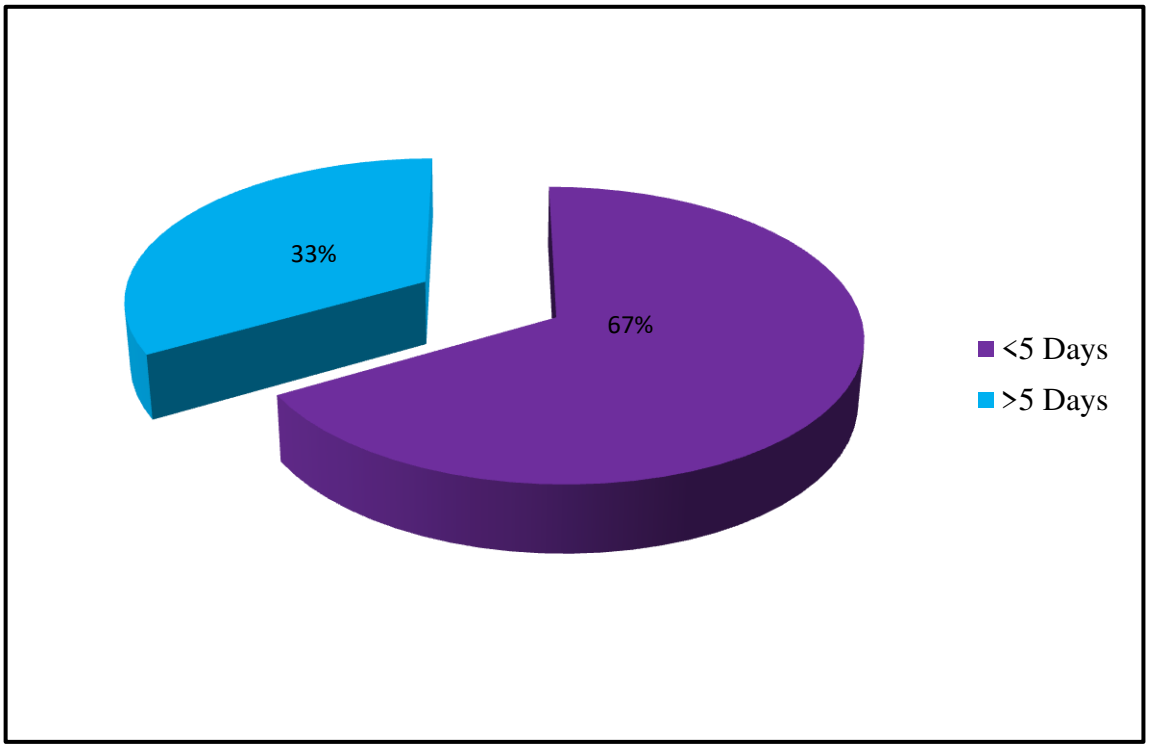


Fig 11: Distribution of children according to their Duration of present stay in Medical Play group.

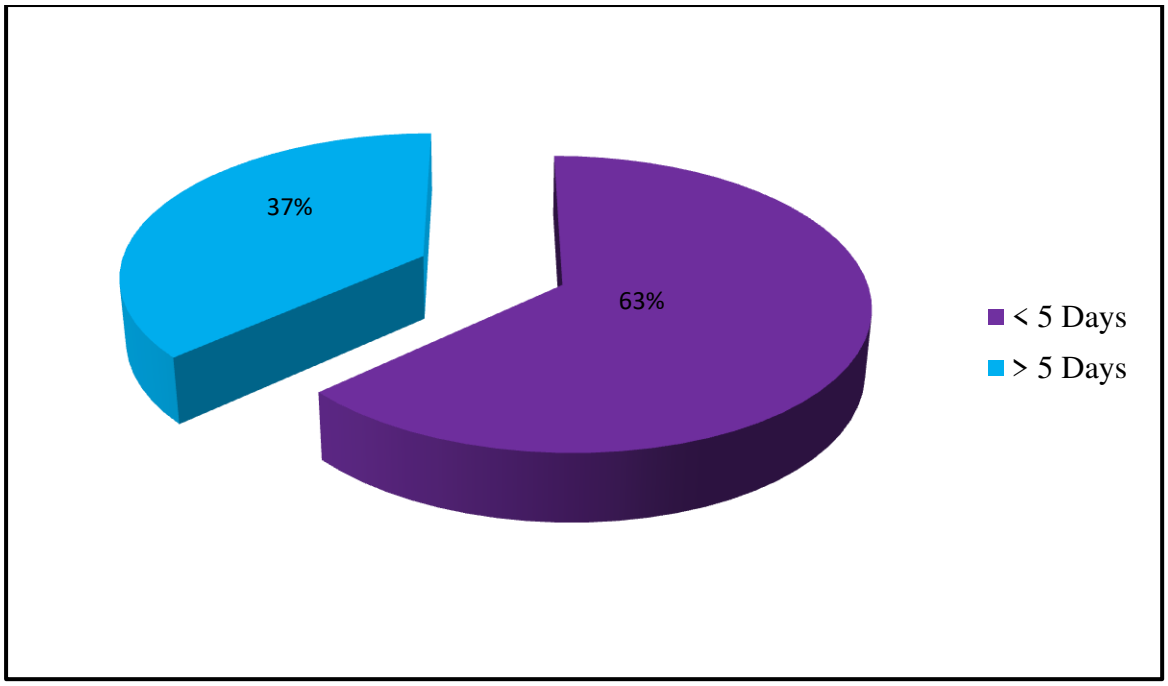


Fig 12: Distribution of children according to their Duration of present stay in Balloon blowing Group .

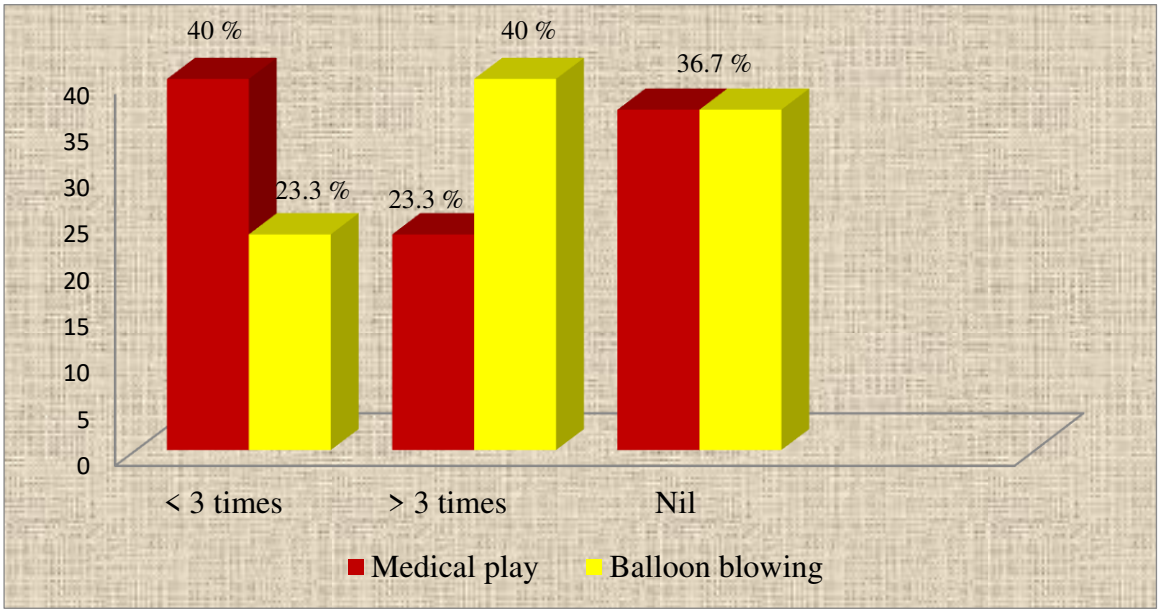


Fig 13: Distribution of children according to their Number of previous admission in Both Groups.

Table 3 : Description of Physiological Parameters of Children on pain in both groups.

[N = 30 + 30]

S. No	Physiological parameters	Medical play				Balloon blowing			
		Pre test		Post test		Pre test		Post test	
		f	%	f	%	f	%	F	%
1.	**HEART RATE**								
	a)80-90 beats per min	6	20.0	5	16.7	3	10.0	4	13.3
	b)90-100 beats per min	4	13.3	6	20.0	6	20.0	7	23.3
	c)100-110 beats per min	6	20.0	9	30.0	6	20.0	10	33.4
	d)110-120 beats per min	5	16.7	8	26.7	10	33.3	8	26.7
	e) 120-130 beats per min	9	30.0	2	6.6	5	16.7	1	3.3
2.	**RESPIRATORY RATE**								
	a)18-23 breath per min	15	50.0	10	33.4	7	23.3	10	3.4
	b)23-28breath per min	10	33.3	18	60.0	18	60.0	17	56.6
	c)28-33 breath per min	5	16.7	2	6.6	5	16.7	3	10.0
3.	**Saturation**								
	a)<92	20	66.6	12	40.0	22	73.4	10	13.4
	b)>92	10	33.4	18	90.0	8	26.6	20	66.6
4.	**Temperature**								
	a)100-101°F	9	30.0	10	33.4	7	23.3	20	66.6
	b)101-102°F	15	50.0	18	60.0	16	53.4	8	26.8
	c)102-103°F	6	20.0	2	6.6	7	23.3	2	6.6

The above table describes the physiological parameters of children pain in both groups. Heart rate increased in both groups (30%, 16.7%).After intervention the heart rate return to normal. Similarly increased Respiratory Rate in both groups 16.7%. After intervention the Respiratory Rate return to normal .Most of the children

had decreased saturation (33.4%, 26.6%). Most of they had fever regarding from 101–102°F (50%, 53.4%)

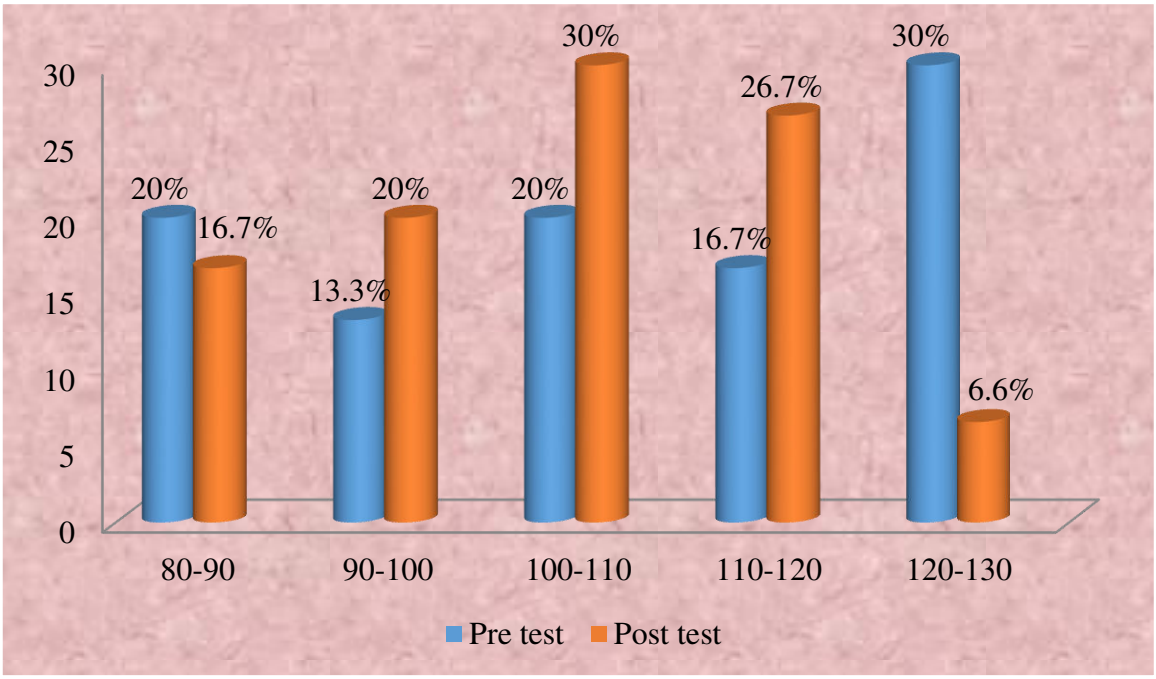


Fig 14: Distribution of children according to Heart Rate in Medical Play Group.

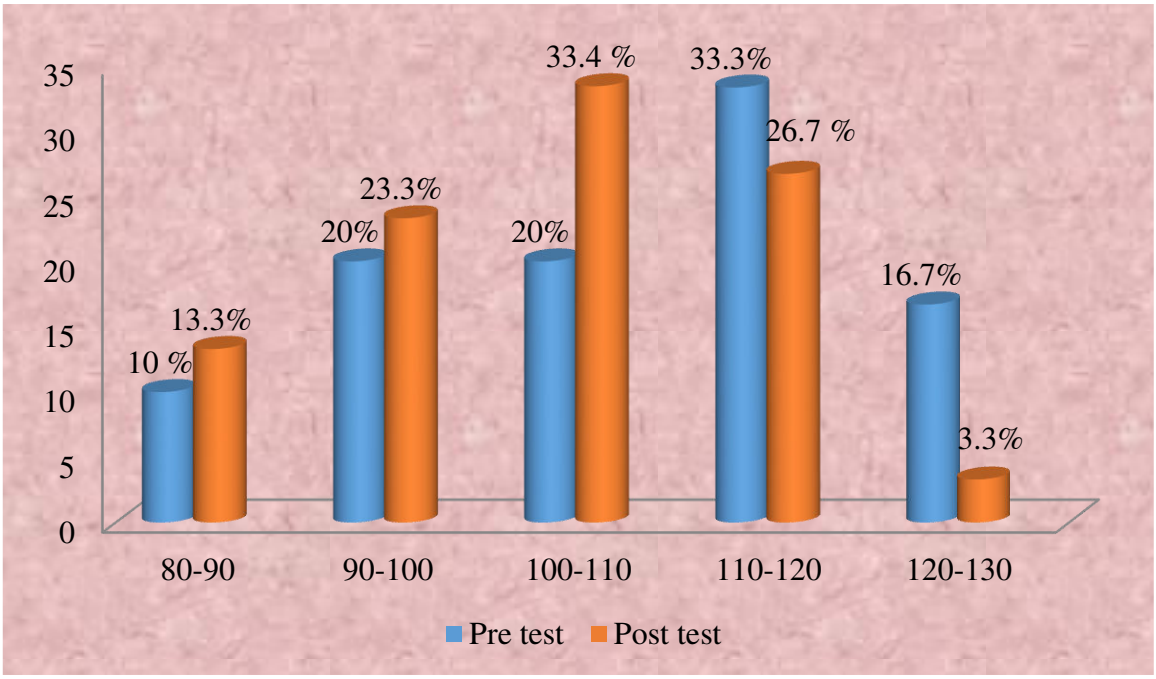


Fig 15: Distribution of children according to Heart Rate in Balloon Blowing Group.

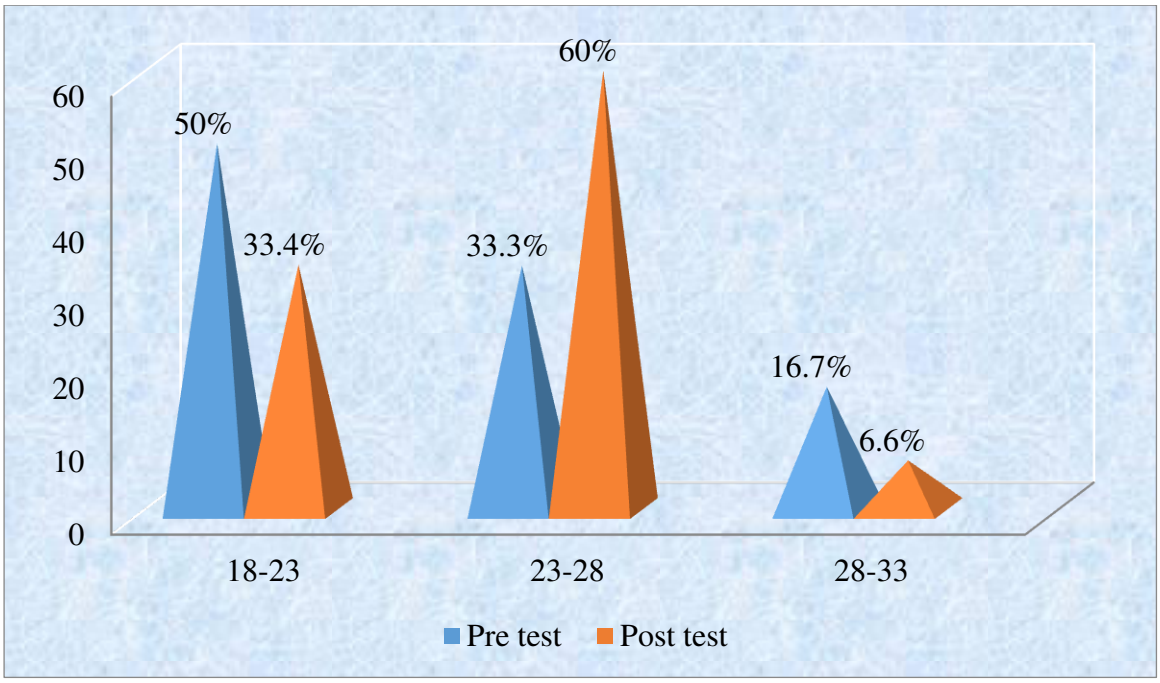


Fig 16: Distribution of children according to Respiratory Rate in Medical Play Group.

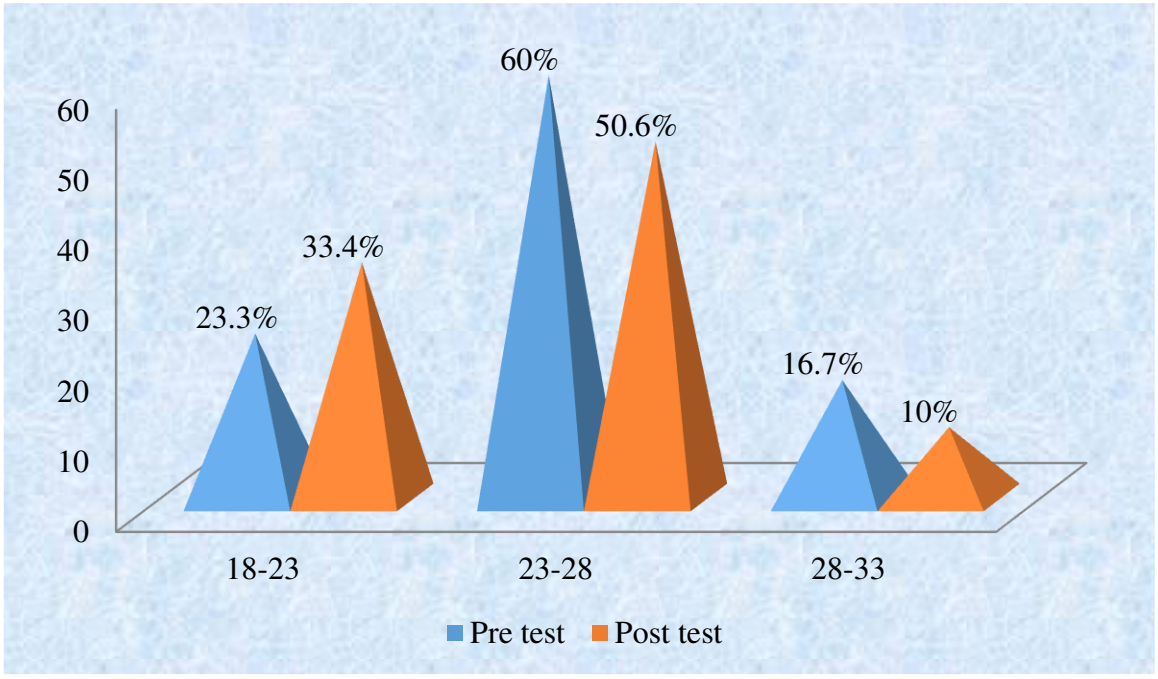


Fig 17: Distribution of children according to Respiratory Rate in Balloon Blowing Group.

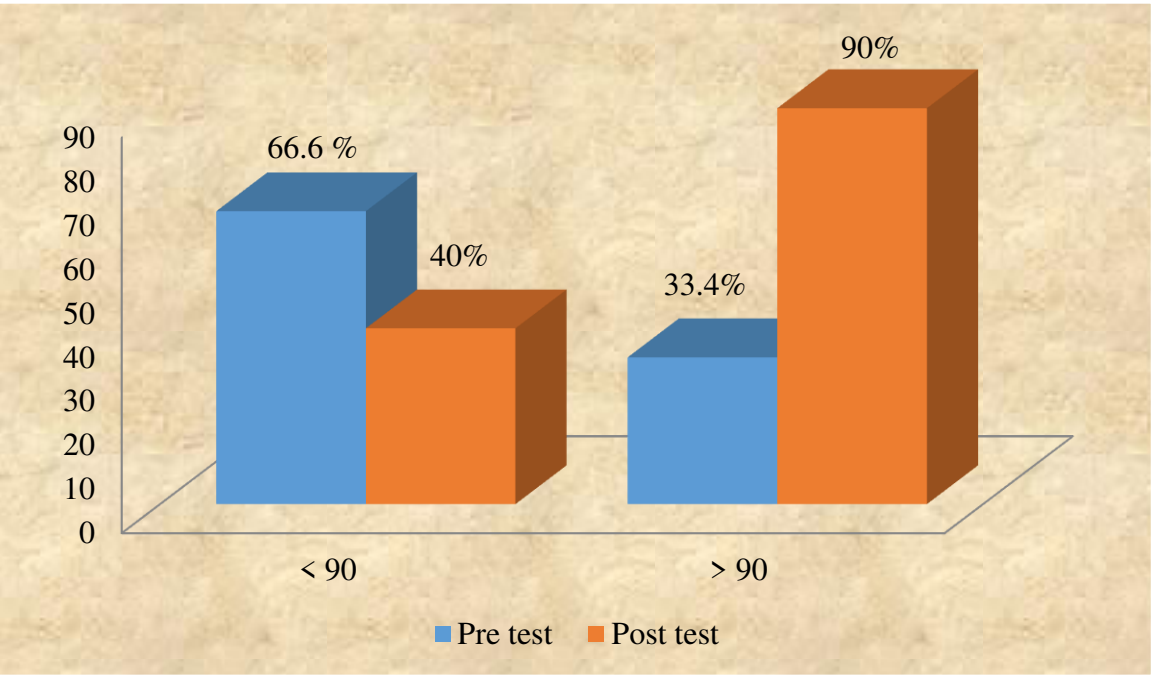


Fig 18: Distribution of children according to Saturation in Medical Play Group.

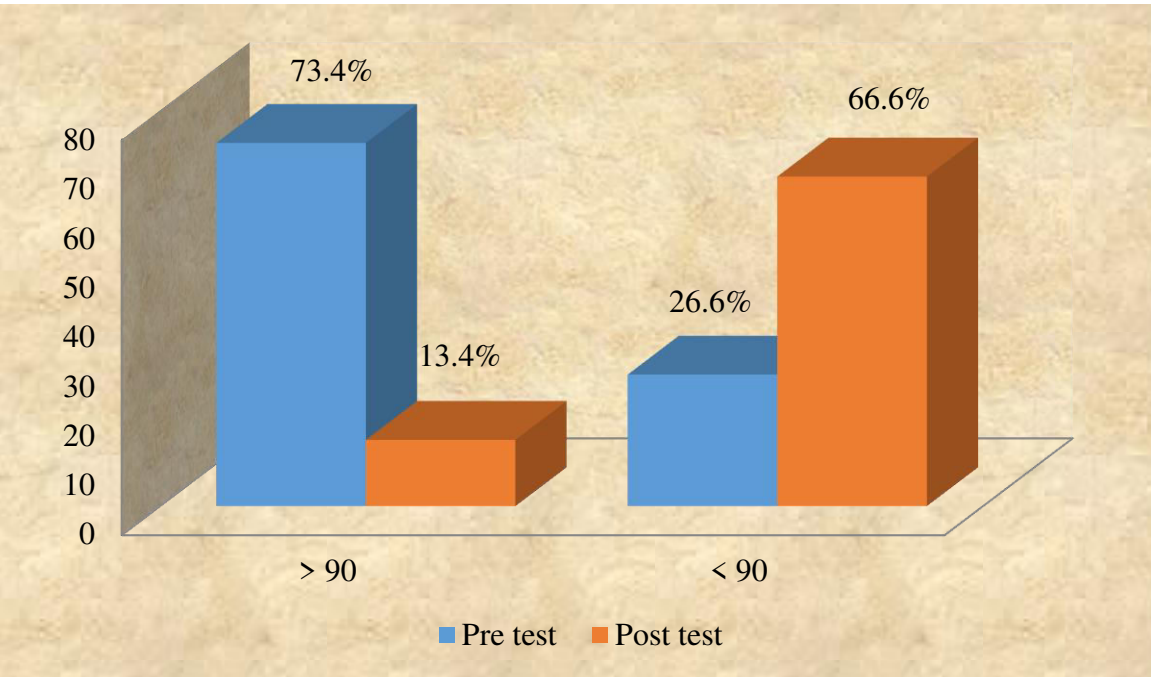


Fig 19: Distribution of children according to Saturation in Balloon Blowing Group.

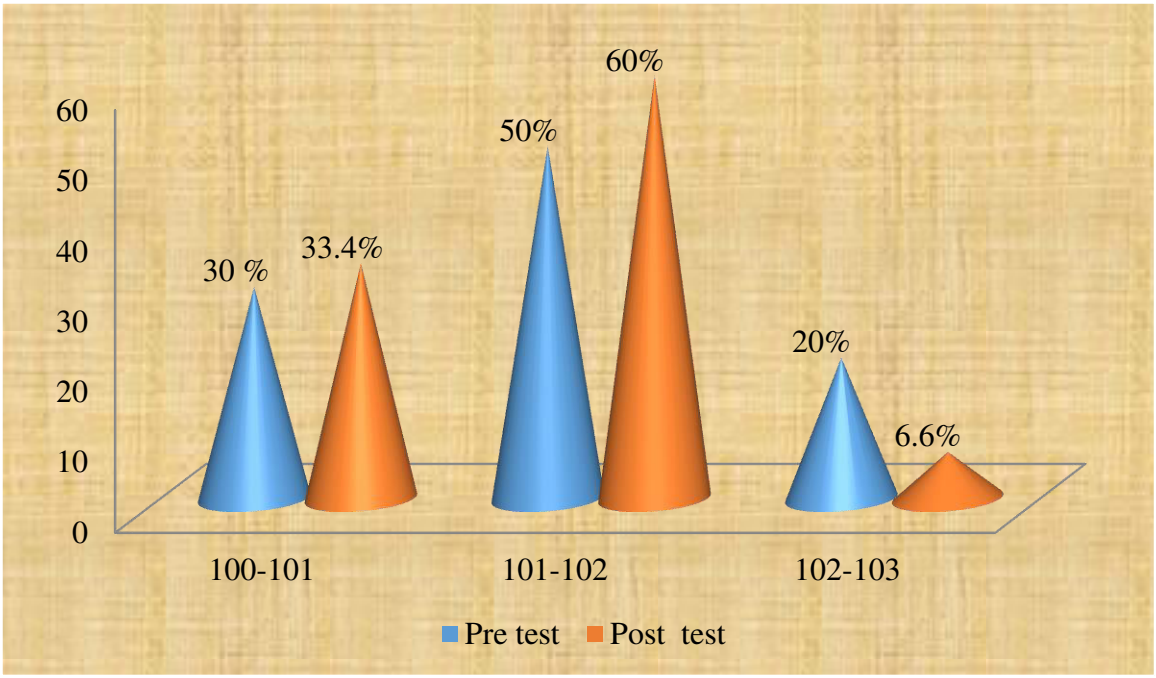


Fig 20: Distribution of children according to Temperature in Medical Playgroup.

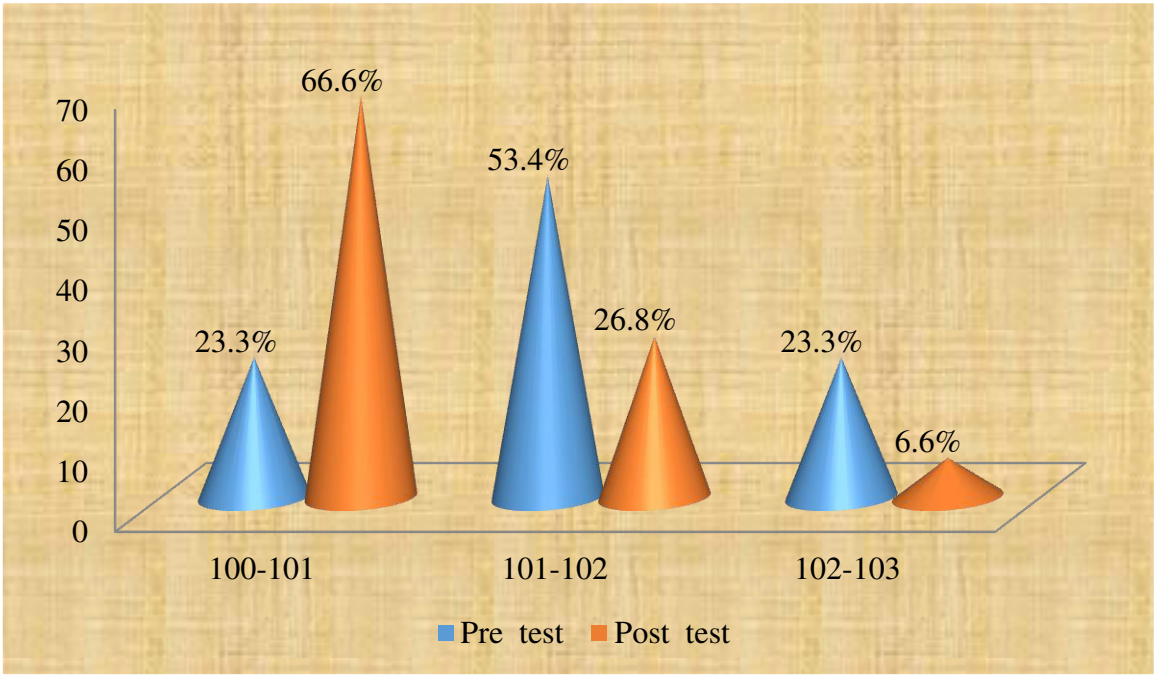


Fig 21 : Distribution of children according to Temperature in Balloon Blowing Group.

SECTION B

Description of pain and fear score of children in Medical Play and Balloon Blowing

Table 4: Description of children according to Pain Score in Both Groups.

(N=60)

S.No	Characteristics of Pain score	Medical play				Balloon blowing			
		Pre-test		Post -test		Pre-test		Post-test	
		f	%	f	%	f	%	f	%
1	**0**	0	0	5	16.7	0	0	6	20.0
2	**2**	0	0	2	6.7	2	6.7	4	13.3
3	**4**	5	16.7	13	43.3	1	3.3	6	20.0
4	**6**	6	15.8	10	33.3	9	30.3	11	36.7
5	**8**	10	26.3	0	0	11	36.7	3	10.0
6	**10**	9	23.7	0	0	7	23.3	0	0

The above table shows the pre-test pain in both groups hurts whole lot (26.3%, 36.7%) and hurts worst (23.7%, 23.3%).The pain had reduced after intervention in both groups there was absence of hurts whole lot and hurts worst in medical play and there was absence of hurts worst and hurts whole lot 10% in balloon blowing .Hence the intervention help to reduce the pain.

Table 5: Description of children according to Fear Score in Both Groups.

(N=60)

S. No	Characteristics Fear score	Medical play				Balloon blowing			
		Pre- test		Post-test		Pre-test		Post-test	
		f	%	f	%	f	%	f	%
1.	**Mild -25**	0	0	2	6.7	0	0	1	3.3
2.	**Moderate 25-50**	8	26.7	25	83.3	11	36.7	24	80.0
3.	**Severe 50-75**	22	73.3	3	10.0	19	63.3	5	16.7

The above table shows pretest fear was severe in both groups 73.3% (22) in medical play 63.3% (19) in balloon blowing .The severity had reduced after intervention in both groups. Only 10% (3) in medical play and 16.7 % (5) in balloon blowing .Hence the intervention helped to ease the children .

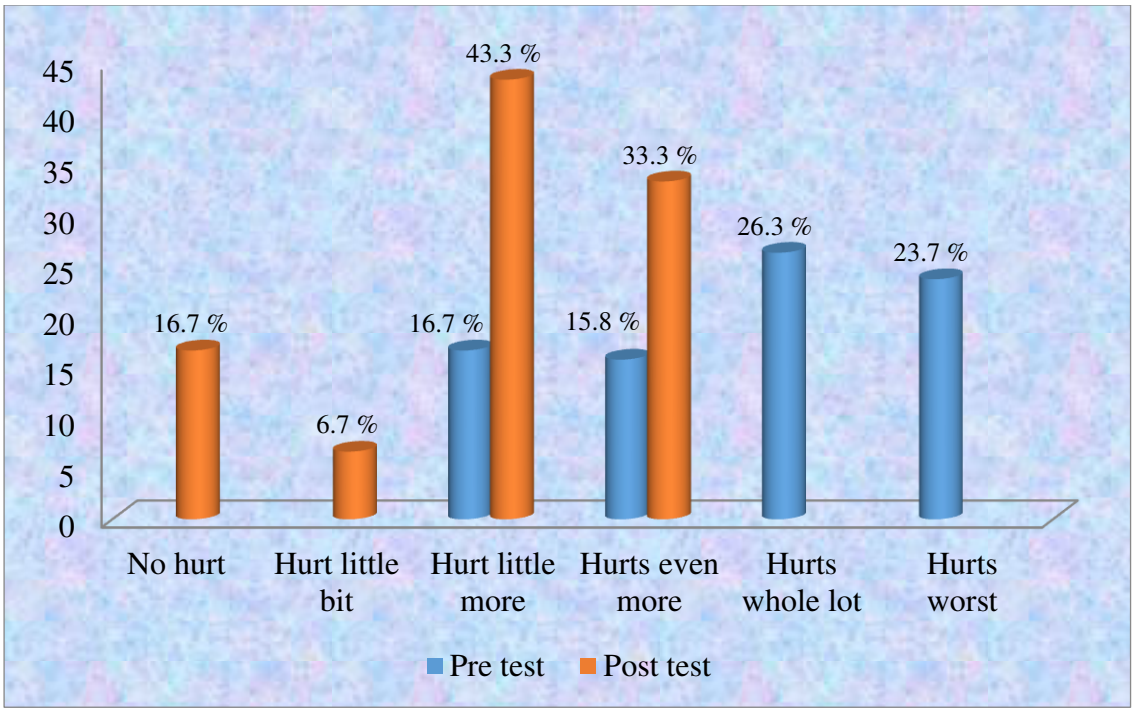


Fig 22: Distribution of children according to pain score in Medical Play Group.

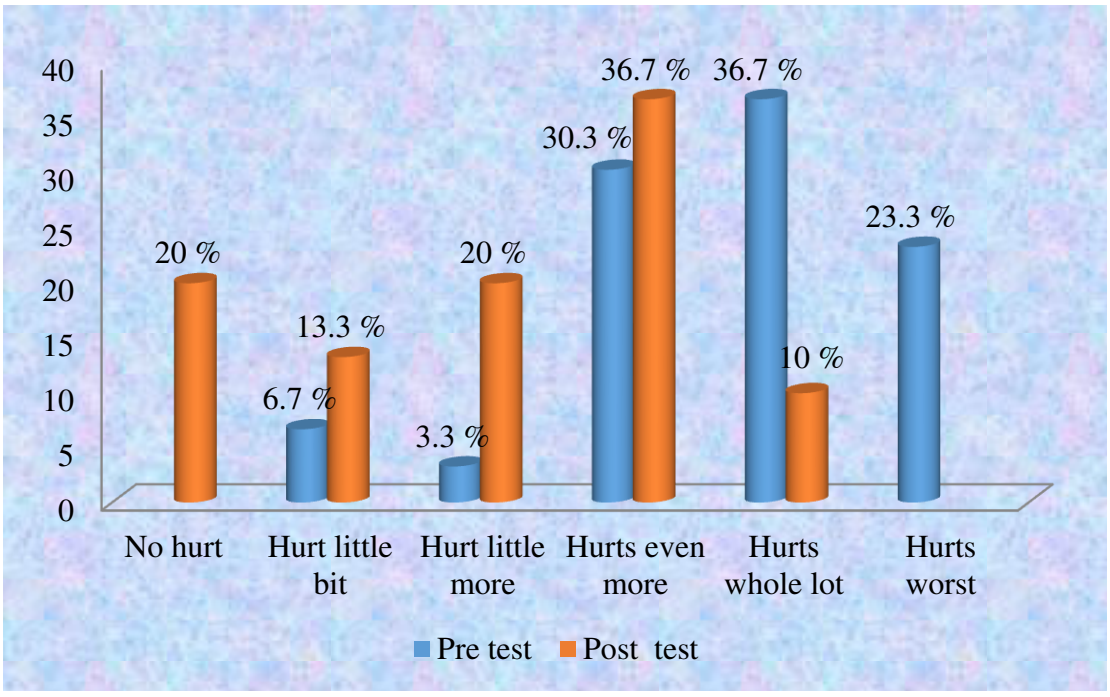


Fig 23: Distribution of children according pain score in Balloon Blowing Group.

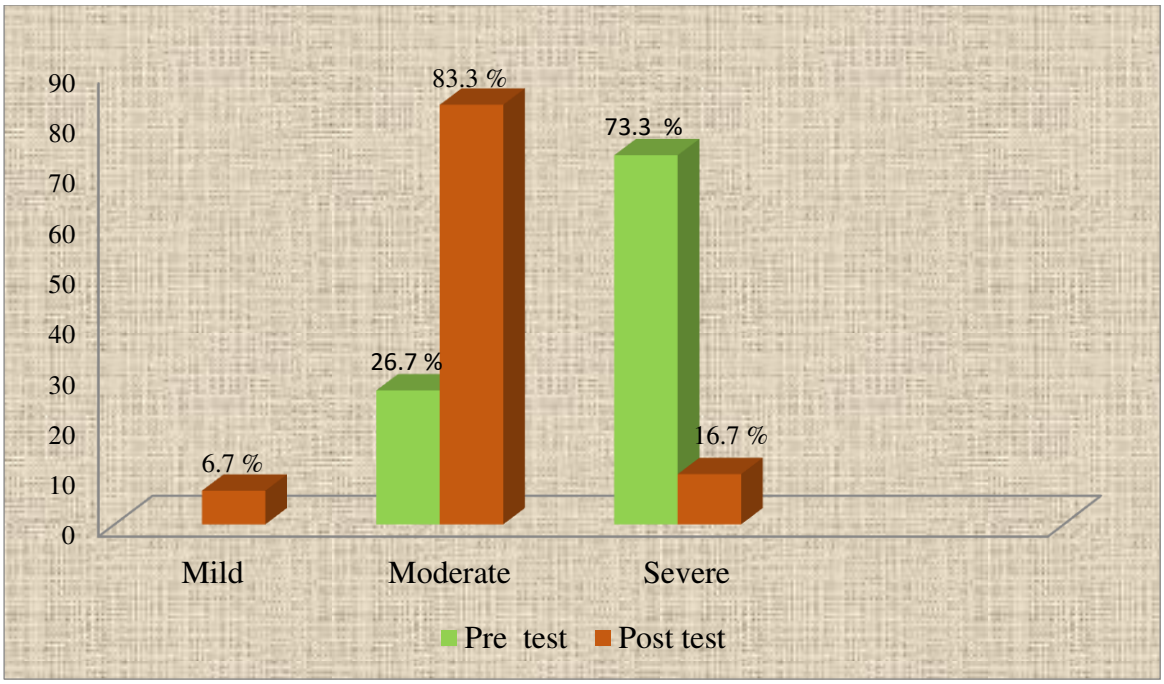


Fig 24: Distribution of children according fear score in Medical Play Group.

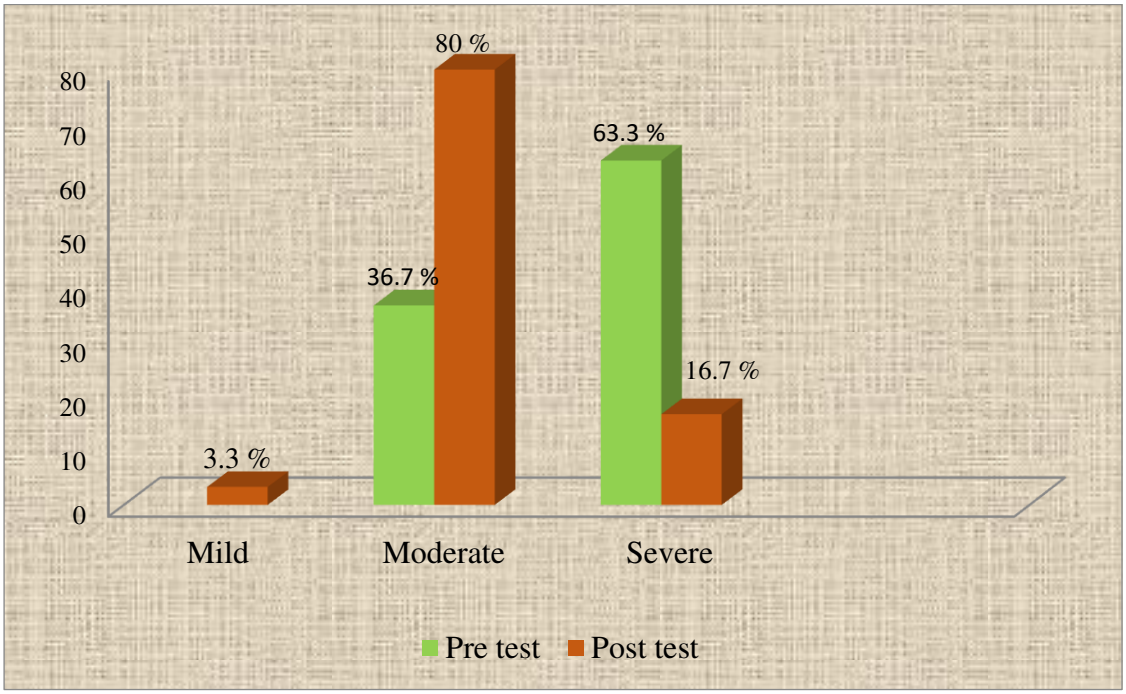


Fig 25: Distribution of children according fear score in Balloon Blowing Group.

SECTION –C

Comparison of effectiveness of Medical play and Balloon blowing on pain and fear of children

Table6: Comparison between pre and post –test onPain in Medical Play Group.

(n=30)

S. No	Variables		Mean	S.D	't' value
1	Pain	Pre -test	4.77	1.073	12.042**
2		Post-test	1.93	1.048	

** Significant at p < 0.01

The above table shows that the obtained 't'value for pre and post-test pain level was 12.042 and was significant at p < 0.01 level, hence there was a significant difference between the pre and post-test pain in medical play.

Table 7: Comparison between pre and post-test on fear in Medical Play Group.

(n=30)

S.no	Variables		Mean	S.D	't' value
1	Fear	Pre -test	61.60	9.18	13.664**
2		Post-test	37.13	6.58	

* *Significant at p < 0.01

The above table shows that the obtained computed 't' value for pre and post-test fear level was 13.664 and was significant at p < 0.01 level , hence there was a significant difference between the pre and post fear in medical play .

Table 8: Comparison between pre and post-test on pain in Balloon Blowing Group.

(n=30)

S.No	Variable		Mean	S.D	' t ' value
1	Pain	Pre-test	4.67	1.093	14.432**
2		Post-test	2.03	1.326	

** Significant at p < 0.01

Table above table shows that the obtained 't' value for pre and post-test pain level was 14.432 and was significant at p < 0.01 level , hence there was a significant difference between the pre and post-test pain in balloon blowing.

Table 9: Comparison between pre and posttest on fear in Balloon Blowing Group.

(n=30)

S.No	Variable		Mean	S.D	't' value
1	Fear	Pre -test	59.80	10.35	12.214**
2		Post-test	38.10	8.88	

**Significant at p < 0.01

The above table shows that the obtained computed 't' value for pre and posttest fear level was 12.214 and was significant at p <0.01 level , hence there was a significant difference that exist between the pre and posttest fear in balloon blowing.

Table 10: Comparison of post-test pain and fear between medical play and balloon blowing

(N=60)

S.no	Variable		Mean	S.D	't' value
1.	Pain	Medical play	1.93	1.048	0.320(NS)
		Balloon blowing	2.03	1.326	
2.	Fear	Medical play	37.13	6.58	0.527(NS)
		Balloon blowing	38.10	8.88	

NS=Not Significant

There is no significant difference between posttest pain and fear of children in medical play and balloon blowing groups.

SECTION – D

Correlation between Pain and Fear of Children.

Table 10: Correlation between pain and fear in Medical play group.

(n=30)

S. No	Variable		Mean	S.D	'r' value
1	Pain	Pre-test	4.77	1.073	0.4**
2	Fear	Post-test	61.60	9.186	

** Significant p<0.01 level

Table above shows that the obtained 'r'value for pain and fear level was 0.4 and was significant at p <0.01 level, hence there was a significant correlation that exist between pain and fear in medical play.

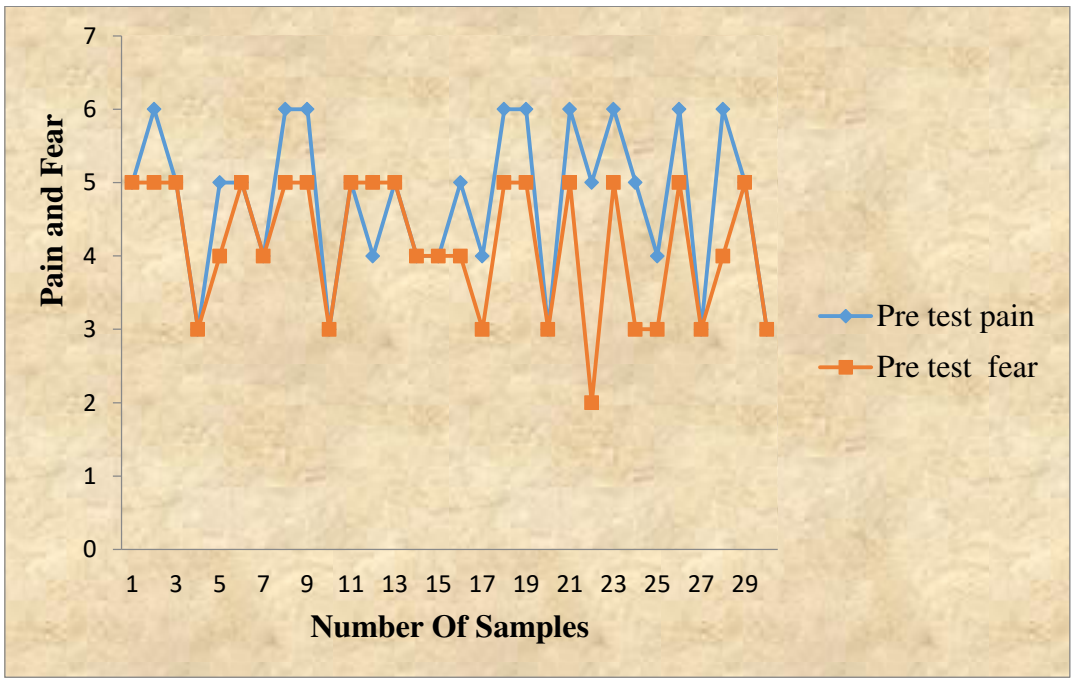


Fig 26: Correlation between pain and fear in Medical Play Group.

Table 11: Correlation between pain and fear in Balloon Blowing Group.

(n=30)

S. No	Variables		Mean	S.D	'r' value
1	Pain	Pre-test	4.67	1.09	0.5**
2	Fear	Pre-test	59.80	10.35	

**significant p< 0.01 level

Table above shows that the obtained 'r' value for pain and fear level was 0.5 and was significant at p <0.01 level, hence there was a significant correlation that exist between the pain and fear in balloon blowing.

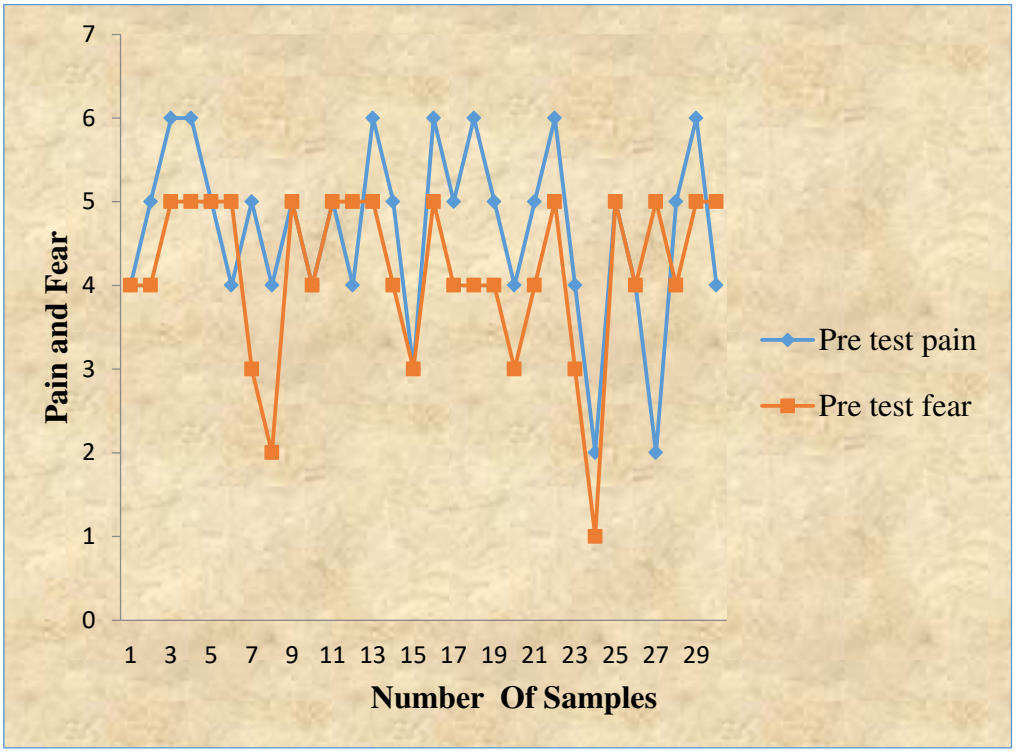


Fig 27: Correlation between Pain and Fear in Balloon Blowing Group.

Section -E

Association of Level of Pain and Fear among Children with Selected Demographic Characteristics in Both Groups.

Table 12: Association of level of pain with the demographic characteristics in Medical play group.

(n=30)

S.NO	Demographic characteristics	f	χ^2	'p' value
1.	**Age** a. 8-10 years b. 10-12 years	 18 12	2.778	0.427 (NS)
2	**Sex** a. Male b. Female	 14 16	.813	0.05* (S)
3.	**Type of family** a. Nuclear b. Joint	 16 14	3.750	0.290 (NS)
4.	**Presence of parents with the child** a. Mother b. Father	 28 2	1.250	5.741S)
5.	**Duration of Present Stay** a. <5 days b. >5days	 20 10	4.550	0.208(NS)

*Significant at p <0.05, NS = Not Significant

The above table shows that the calculated χ^2value is 7.813 in sex which was significant at $p < 0.05$.There was an association between the sex and level of pain in medical play.

Table 13: Association of level of Fear with the Demographic Characteristics in Medical Play Group.

(n=30)

S. No	Demographic Characteristics	f	χ^2	P value
1.	**Age**			
	a. 8-10 years	18	20.97	0.281 (NS)
	b. 10-12 years	12		
2	**Sex**			
	a. Male	14	14.464	0.393(NS)
	b. Female	16		
3.	**Type of family**			
	a. Nuclear	16	14.464	0.698 (NS)
	b. Joint	14		
4.	**Presence of parents with the child**			
	a. Mother	28	21.964	0.234 (NS)
	b. Father	2		
5.	**Duration of present stay**			
	a. <5 days	20	12.60	0.815(NS)
	b. >5days	10		

NS = Not Significant

The above table shows that χ^2value is less than the table value. Hence there was no association between level of fear and various demographic variables of children in medical play.

Table 14: Association of level of Pain and Demographic Characteristics in Balloon Blowing Group.

S.No	Demographic characteristics	f	χ^2	P value
1.	**Age** a) 8-10 years b) 10-12 years	 16 14	9.314	0.054*(S)
2	**Sex** a) Male b) Female	 13 17	7.152	0.128 (NS)
3.	**Type of family** a) Nuclear b) Joint	 22 8	5.764	0.218 (NS)
4.	**Presence of parents with the child** a) Mother b) Father	 29 1	1.787	0.775(NS)
5.	**Duration of present stay** a) < 5 days b) >5days	 19 11	2.805	0.591(NS)

*S = Significant at p<0.05, NS =Not Significant

The table shows that the calculated χ^2value is 9.314 which was significant at p<0.05 .There is significant relationship between age and the level of pain in balloon blowing.

Table 15: Association of Level of Fear and Demographic Characteristics in Balloon Blowing Group.

S.No	Demographic Characteristics	f	χ^2	P value
1.	**Age**			
	a) 8-10 years	16	13.59	0.62(NS)
	b) 10-12 years	14		
2	**Sex**			
	a) Male	13	20.83	0.18(NS)
	b) Female	17		
3.	**Type of family**			
	a) Nuclear	22	16.36	0.42(NS)
	b) Joint	8		
4.	**Presence of parents with the child**			
	a) Mother	29	14.48	0.56(NS)
	b) Father	1		
5.	**Duration of present stay**			
	a) < 5 days	19	19.59	0.23(NS)
	b) >5days	11		

NS = Not Significant

The above table shows that χ^2 value is less than the table value. Hence there was no association between Level of Fear and various Demographic variables of Children in Balloon Blowing.

Association of level of Pain and Present Diagnosis among Children in Both Groups.

Table16: ANOVA between Present Diagnosis and Pain

(N=60)

S. No.	Variable	Present Diagnosis		f	Mean	SD	"F" Value
1	Pain	Fever	Medical play	16	4.94	0.998	1.618(NS) 0.453(NS)
			Balloon blowing	11	4.91	0.701	
2		Seizure	Medical play	7	4.14	0.690	
			Balloon blowing	12	4.58	1.240	
3		Gastrointestinal problem	Medical play	7	5.00	1.414	
			Balloon blowing	7	4.43	1.397	

NS=Not Significant

The table shows that obtained 'F' value is 1.618 in medical play and 0.453 in balloon blowing. Hence there was no association between the present diagnosis and level of pain in both groups.

Association of level of Fear and Present Diagnosis among Children in both Groups.

Table 17: ANOVA between Present Diagnosis and Fear

(N=60)

S.No	Variable	Present Diagnosis		f	Mean	SD	"F" Value
1	Fear	Fever	Medical play	16	63.6	9.63	2.132(NS) 0.356(NS)
			Balloon blowing	11	60.8	9.16	
2		Seizure	Medical play	7	55.5	1.75	
			Balloon blowing	12	57.8	12.49	
3		Gastrointestinal problems	Medical play	7	63.0	9.91	
			Balloon blowing	7	61.5	8.84	

NS= Not significant

The table shows the obtained 'F' value is 3.132 in medical play and 0.356 in balloon blowing. Hence there was no association between the present diagnosis and level of fear in both groups.

Association of level of Pain and Number of Previous Admission among Children in Both Groups.

Table 18: ANOVA between Number of Previous Admission and Pain

(N=60)

S. No	Variable	No. of previous admission		f	Mean	SD	"F" Value
1.	Pain	< 3 times	Medical play	12	4.42	0.90	4.466* 1.971(NS)
			Balloon blowing	7	4.0	1.414	
2.		>3 times	Medical play	7	4.29	1.380	
			Balloon blowing	12	4.75	0.866	
3.		Nil	Medical play	11	5.45	0.688	
			Balloon blowing	11	5.0	1.00	

*S=Significant at p<0.05

The table shows the obtained 'F' value is 4.466 which was significant at p <0.05 and in medical play and in Balloon blowing 1.971.Hence therefore there was an association between the number of previous admission and level of pain in medical play.

Association of level of fearand number of previous admission among children in both groups.

Table 19:ANOVA between number of Previous Admission and Fear

(N=60)

S.No	variable	No of previous admission		f	Mean	SD	"F" Value
1	Fear	< 3 times	Medical play	12	61.0	8.95	7.753** 0.57(NS)
			Balloon blowing	7	58.7	13.1	
2		>3 times	Medical play	7	53.1	8.98	
			Balloon blowing	12	59.8	9.98	
3		Nil	Medical play	11	67.5	4.32	
			Balloon blowing	11	60.4	9.80	

**S= Significant at p<0.01

The table shows that obtained 'F' value is 7.753 which was significant at p <0.01 and in medical play and 0.57 in Balloon blowing. Hence therefore there was an association between the number of previous admission and level of fear medical play.

CHAPTER V

DISCUSSION, SUMMARY CONCLUSION, IMPLICATION, LIMITATION AND RECOMMENDATION

This chapter deals with discussion, summary and conclusion .It also clarifies the limitation of the study, implication and recommendation given for the different areas of nursing practice, nursing education, nursing administration and nursing research.

Pain and fear in children is often under treated. The reason for the lack of adequate pain control may include: myths about pain and pain management, fear held by parents and health professional, and the lack of appropriate pain assessment. A child respond to these experiences according to their developmental level .The nurse must be aware of the child's response to pain through assessment of behavioural response and differentiation of crying.

Coping strategies is a proven effective psychological intervention. Coping strategies is a power relief intervention that children are accustomed to use. Coping strategies can be used as one of the strategies to gain co-operation of the child. Coping strategies is the ability to focus attention on something other than pain and fear it does not mean that the pain is gone .This leads to provide competing stimuli for the pain stimuli during the procedure. In this study the researcher has made an attempt to identify the effectiveness of coping strategies on pain and fear of hospitalized children.

DISCUSSION:

The present study was designed to assess the effectiveness of coping strategies on pain and fear of hospitalized children .The study was quasi-experimental – two group pre-test and post-test design .The researcher used permuted block randomization,non-probability purposive sampling technique to select 60 subjects.Group I(Medical Play) 30 subjects and in Group II (Balloon Blowing) 30 subjects.The data collected for the study were analyzed statistically and discussed below based on the objectives.

The first objective of the study was to assess the level of pain and fear among children admitted in hospital:

The demographic characteristics of the children in both groups. Majority of children belong to 8- 10 years of age 60% (18) in medical play and 53.3% (16) in balloon blowing. Regarding sex female dominates than male 56.7%. 73.3% were nuclear family. Most of the parents were with the child (93.3%, 96.7%) in both groups.

The clinical characteristics of the children in both groups. Majority of the children were admitted with fever in both groups (53.4 %, 50%). Previous admission <3 times 40% in medical play >3 times 40% in balloon blowing.

The physiological parameters of children pain in both groups. Heart rate increased in both groups (30%, 16.7%).After intervention the heart rate return to normal. Similarly increased Respiratory Rate in both groups 16.7%. After intervention the Respiratory Rate return to normal .Most of the children had decreased saturation (33.4%,26.6%). Most of them had fever ranging from 101 – 102°F (50%, 53.4%).

According to Wong Baker faces pain score pre-test pain in both groups hurts whole lot (26.3%, 36.7%) and hurts worst (23.7%, 23.3%).The pain had reduced after intervention in both groups there was absence of hurts whole lot and hurts worst in medical play and there was absence of hurtsworst in balloon blowing .Hence the intervention help to reduce the pain.

According to Modified child medical fear score, pretest fear was severe in both groups 73.3% (22) in medical play 63.3%(19) in balloon blowing .The severity had reduced after intervention in both groups. Only 10% (3) in medical play and 16.7 %(5) in balloon blowing.Hence the intervention helped to ease the children.

The result of the present study substantiated with the result of the **Sima Kahani (2016)** Distraction Technique to reduce the pain and fear of Dressing Change among 3-6-Year-old Children. 80 hospitalized children with second-degree burn in 2015. Playing a video computer game for children during for intervention for the

experimental group and control group have routine care. Interventional group means 2.575 had significant changes in comparison with the control group 8.025 (P<0.001). 70% of children in the control group experienced severe pain due to a dressing change, but most children in the intervention group 77.5%had a little pain.

The second objectives of the study to evaluate the level of pain and fear before and after medical play.

The pre and posttest pain level among medical play was compared by using 't' test . Based on the Wong – baker faces pain score the pre- test had a mean score 4.77 whereas the posttest had 1.93 as the mean score. On regards of the obtained 't' test value is 12.042 which is significant at p<0.01 .It reveals that was a significant between pre and posttest pain in medical play .

The pre and posttest fear level among medical play was compared by using 't' test . Based on the modified child medical fear score the pretest had a mean score 61.60 whereas the posttest had 37.13 as the mean score. On regards of the obtained "t" test, the value is 13.664 which is significant at p<0.01 .It reveals that was a significant between pre and posttestfear in medical play.

A quasi-experimental study evaluated the effects of the cognitive-behavioral program on pain and medical fear in hospitalized children receiving intravenous placement. 35 children were assigned to the experimental group and 33 children in the control group. Before the procedure, the intervention is given to the children to read an educational photo book about Intravenous placement and watching favorite music video during the procedure. The tool used to measure the pain and fear were numeric rating scales for pain intensity and fear during the procedure. Post-intervention, the mean scores on pain(5.34 to 4.43) and fear (5.54 to 3.37) decreased in the experimental group. The intensity of fear in the experimental group was significant at p<0.05 lower than in the control group. **(Yi-Chuan Hsieh et al 2017)**

The third objective of the study to evaluate the level of pain and fear before and after balloon blowing:

The pre and posttest pain level among balloon blowing was compared by using 't' test. Based on the Wong – baker faces pain score the pretest had a mean score 4.67 whereas the posttest had 2.03 as the mean score .On regards of the paired "t" test, the value is 14.432 which is significant at $p<0.01$ .It reveals that was a significant between pre and posttest pain in balloon blowing.

The pre and posttest fear level among medical play was compared by using't' test.Based on the modified child medical fear score the pretest had a mean score 59.80 whereas the posttest had 38.10 as the mean score. On regards of the obtained "t" test,the value is 12.214 which is significant at $p<0.01$ .It reveals that was a significant between pre and posttest fear in balloon blowing group.

The result of the present study substantiated with the results of the study by **Bowen and Dammayer (2008)** on reduced children's immunization distress in a primary care center. The purposes of this study were to compare two brief distraction therapy like party blower and pinwheel interventions among 80 preschooler children participated and the result indicated party blower result found that a significant at $p<0.01$ in the children's rating of reduced distress and showed it to be more distracted than the pinwheel.

The fourth objectives of the study was to compare the effectiveness medical play and balloon blowing in regarding pain and fear:

The posttest pain in both groups the paired 't ' test the obtained value were 0.320and the posttest pain in both groups the paired 't ' test the obtained value were 0.527.there was no significant between post pain and fear in both groups.

The results of the present study are supported by **Soontatree and Sriarammanee, in 2006** supported the present study. They assessed the effect of distraction by using a party blower on pain level during intravenous insertion among preschool children. The result revealed that children in the experimental group had significantly lower pain than the control group with $p<0.01$. This finding showed that the effectiveness of distraction could reduce pain in hospitalized children.

The fifth objective of the study was to correlate the level of pain and fear of children engaged in medical play and children with balloon blowing.

The correlation between pain and fear of children in medical play was correlated using Caryl Pearson correlation. The obtained 'r'value for pain and fear level was 0.4 and was significant at p <0.01 level, hence there was a significant correlation that exist between pain and fear in medical play.

The correlation between pain and fear of children in balloon blowing was correlated using Caryl Pearson correlation. The obtained 'r' value for pain and fear level was 0.5 and was significant at p <0.01 level, hence there was a significant correlation that exist between the pain and fear in balloon blowing.

The six objective was to find out the associate the demographic variables of children with pain and fear of hospitalization among both groups.

The association between level of pain and sex in which χ^2 value is 7.813 which was significant at p < 0.05.There was an association between the sex and level of pain in medical play.

The association between level of pain and age in which χ^2 value is 9.314 which was significant at p<0.05 .There is significant relationship between age and the level of pain in balloon blowing.

There was no association between level of fear and demographic characteristics in both groups.

Association between number of previous admission and level of pain in medical play 'F' value is 4.466 which was significant at p <0.05 and in medical play .Hence therefore there was an association between the number of previous admission and level of pain in medical play.

Association between number of previous admission and level of fear the 'F' value is 7.753 which was significant at p <0.01 and in medical play. Hence therefore there was an association between number of previous admission and level of fear medical play.

There was no association between pain and fear and number of previous admission in balloon blowing.

SUMMARY:

This study was conducted assess the Effectiveness of Coping Strategies on Pain and Fear of hospitalization among Children admitted at Kovai Medical Center and Hospital, Coimbatore.

The objectives of the study were to:

1. Assess the level of pain and fear among children admitted in hospital
2. Compare the level of pain and fear before and after medical play.
3. Compare the level of pain and fear before and after balloon blowing.
4. Correlate the level of pain and fear of children engaged in medical play and children with balloon blowing.
5. Associate the demographic variables of children with pain and fear of hospitalization among both groups.

Review of literature and related articles were helped to carry out the study .The investigator adopted quasi experimental – two group pretest and posttest design for conducting the study. The modified Katherine Kolcaba's comfort model(2011). The tool used for the data collection was Wong-baker faces pain scale and modified child medical fear scale.The content validity of the tool was obtained from nursing and medical experts.Pilot study was conducted to find the feasibility of the study .The main study was conducted for a period of 6 weeks at KMCH ,Coimbatore .The data collection were organized ,analyzed and interpret by using inferential and descriptive statistics .

Major Findings of the Study:

- The demographic characteristics of children in both groups .Majority of children belong to 8- 10 years of age 60% (18) in medical play and 53.3% (16) in balloon blowing. Regarding sex female dominates than male 56.7%. 73.3% were nuclear family. Most of the parents were with the child (93.3%, 96.7%) in both groups.
- The clinical characteristics of the children in both groups. Majority of the children were admitted with fever in both groups (53.4 %, 50%). Previous admission <3 times 40% in medical play >3 times 40% in balloon blowing.

- The physiological parameters of children pain in both groups. Heart rate increased in both groups (30%, 16.7%).After intervention the heart rate return to normal. Similarly increased Respiratory Rate in both groups 16.7%. After intervention the Respiratory Rate return to normal.
- According to Wong Baker faces pain score pre-test pain in both groups hurts whole lot (26.3%, 36.7%) and hurts worst (23.7%, 23.3%).The pain had reduced after intervention in both groups there was absence of hurts whole lot and hurts worst in medical play and there was absence of hurtsworst and hurts whole lot 10% in balloon blowing .Hence the intervention help to reduce the pain.
- According to Modified child medical fear score, pretest fear was severe in both groups 73.3% (22) in medical play 63.3 %(19) in balloon blowing .The severity had reduced after intervention in both groups. Only 10% (3) in medical play and 16.7 %(5) in balloon blowing .Hence the intervention helped to ease the children.
- The pre and posttest pain level among medical play was compared by using‘t’ test . Based on the Wong – baker faces pain score the pre- test had a mean score 4.77 whereas the posttest had 1.93 as the mean score. On regards of the obtained‘t’ test value is 12.042 which is significant at $p<0.01$.It reveals that was a significant between pre and posttest pain in medical play.
- The pre and posttest fear level among medical play was compared by using‘t’ test . Based on the modified child medical fear score the pretest had a mean score 61.60 whereas the posttest had 37.13 as the mean score. On regards of the obtained “t” test,the value is 13.66 which is significant at $p<0.01$ .It reveals that was a significant between pre and posttest fear in medical play.
- The pre and posttest pain level among balloon blowing was compared by using‘t’test. Based on the Wong – baker faces pain score the pretest had a mean score 4.67 whereas the posttest had 2.03 as the mean score .On regards of the paired “t” test, the value is 14.432 which is significant at $p<0.01$ .It reveals that was a significant between pre and posttest pain in balloon blowing.
- The pre and posttest fear level among medical play was compared by using ‘t’ test . Based on the modified child medical fear score the pretest had a mean score 59.80 whereas the posttest had 38.10 as the mean score. On regards of

the obtained "t" test, the value is 12.214 which is significant at p<0.01 .It reveals that was a significant between pre and posttest fear in balloon blowing group.

- The post test pain in both groups the paired 't ' test the obtained value were 0.320 and the post test pain in both groups the paired 't ' test the obtained value were 0.527.there was no significant between post pain and fear in both groups.
- The correlation between pain and fear of children in medical play was correlated using Pearson correlation. The obtained 'r'value for pain and fear level was 0.4 and was significant at p <0.01 level, hence there was a significant correlation that exist between pain and fear in medical play.
- The correlation between pain and fear of children in balloon blowing was correlated using Pearson Correlation. The obtained 'r' value for pain and fear level was 0.5 and was significant at p <0.01 level, hence there was a significant correlation that exist between the pain and fear in balloon blowing.
- The correlation statistically showed that "r" value 0.4 there was a significant at p<0.01 relation exists between pre intervention pain and fear in medical play and "r" value 0.5 there was a significant at p<0.01 relation exists between pre intervention pain and fear in balloon blowing.
- The association between level of pain and sex in which χ^2 value is 7.813 in sex which was significant at p < 0.05.There was an association between the sex and level of pain in medical play.
- The association between level of pain and age in which χ^2 value is 9.314 which was significant at p<0.05 .There is significant relationship between age and the level of pain in balloon blowing.

  There was no association between level of fear and demographic characteristics in both groups.
- Association between number of previous admission and level of pain in medical play 'F' value is 4.466 which was significant at p <0.05 and in medical play .Hence therefore there was an association between the number of previous admission and level of pain in medical play.
- Association between number of previous admission and level of fear the 'F' value is 7.753 which was significant at p <0.01 and in medical play. Hence

therefore there was an association between number of previous admission and level of fear medical play.

- There was no association between pain and fear and number of previous admission in balloon blowing.

CONCLUSION:

The following conclusions are drawn from the study.

- The level of pain pre and posttest pain with medical play "t" value 12.042 using Wong-baker faces pain score which was significant ($p<0.01$) .The level of fear pre and posttest fear with medical play "t" value 13.664 and using modified child medical fear score which was significant ($p<0.01$). It shows that a significant difference between pre and post procedural pain and fear ,the child received medical play .H1 is accepted
- The level of pain pre and posttest pain with balloon blowing "t" value 14.432 using Wong-baker faces pain score which was significant ($p<0.01$). The level of fear pre and posttest fear with and with balloon blowing "t" value 12.213 using modified child medical fear score which was significant ($p<0.01$). It shows that a significant difference between pre and post procedural pain and fear ,the child received medical play .H2 is accepted

- The post test pain in both groups the paired 't ' test the obtained value were 0.320 and the post test pain in both groups the paired 't ' test the obtained value were 0.527.there was no significant between post pain and fear in both groups. Both intervention are effective to reduce pain and fear..so H3 is rejected.
- Correlation between pain and fear exist in both group.
- The association between level of pain and sex in which χ^2 value is 7.813 in sex which was significant at $p < 0.05$.There was an association between the sex and level of pain in medical play.
- The association between level of pain and age in which χ^2 value is 9.314 which was significant at $p<0.05$ .There is significant relationship between age and the level of pain in balloon blowing.

- Association between number of previous admission and level of pain "F" value is 4.466 which was significant at $p<0.05$ and the level of fear the 'F' value is 7.753 which was significant at $p<0.01$ .Hence therefore there was an association between number of previous admission and level of fear in medical play.

IMPLICATION:

The present study findings have several implication in nursing practice, nursing education, nursing administration and nursing research.

Nursing Practice

- Increased attention must be directed in pain and fear assessment and documentation and understanding the developmental difference in pain and fear with different age group.
- Increased attention must be directed that the nurse to understand the different distraction strategies of pain and fear management as to practice independently.
- The present study showed that the use of distraction reduced the procedural pain and fear level of hospitalized children.

Nursing Education

- The nurse educator can create awareness among and other health care professionals about the importance of distraction in reducing pain and fear and its various evidence based management.
- The nurse educator can motivate the nursing personnel and students to use of distraction in the reduction of pain and fear among children in clinical area.
- The study helps to provide knowledge in assessing and documenting children's response to pain.

Nursing administration

- Nurse administration can disseminate the research knowledge to the nurse working in the paediatric wards.

- Nurse administrator can plan and organize seminars, workshops and conferences about pain and fear management among children using distraction in reduction of pain and fear during procedures and hospitalization.
- Nurse administration can formulate protocol to incorporate the study findings in nursing intervention.

Nursing Research

- This study provides a basis for further studies.
- This study favors for updating the knowledge and proper utilization of resources in the field of nursing practice.

LIMITATION:

- Painful procedure like I.V cannulation alone is considered in the study.
- The findings cannot be generalized as the samples are limited to 8-12 years of age

RECOMMENDATION

- A similar study can be conducted with large number of samples.
- A study can be conducted at different settings.
- A comparative study can be conducted to assess the effect of distraction Vs topical therapy with lidocaine in the reduction of pain among children.
- A similar study can be done among children during veinpuncture or painful procedure.

ABSTRACT

This present study entitled “Effectiveness of Coping Strategies on Pain and Fear of Hospitalization among Children Admitted at Kovai Medical Center and Hospital, Coimbatore.

Objectives of the Study:

1. Describe the level of pain and fear among children admitted in hospital
2. Evaluate the effectiveness of pain and fear of children in medical play
3. Evaluate the effectiveness of pain and fear of children in balloon blowing .
4. Compare the effectiveness of medical play and balloon blowing in regarding pain and fear.
5. Correlate the level of pain and fear of children in both groups.
6. Associate the demographic and clinical variables of children with pain and fear of hospitalization among both groups.

Design:

True Experimental Two Group Pretest and Posttest design.

Conceptual Frame Work:

The study was based on Modified Katherine Kolcaba’s Comfort Theory (2011).

Setting:

The Study was conducted at Peadiatric wards of Kovai Medical Center and Hospital, Coimbatore.

Sample:

Totally 60 samples were enrolled in this study, 30 children in Medical Play Group and 30 were Balloon Blowing Group.

Data Collection:

A formal permission for the collection of data was obtained from Chairman and Hospital Authority. The respondents were selected on non-purposive sample

technique. After maintaining a good rapport with the caregiver and children, the required data were collected.

Results:

- The level of pain pre and posttest pain with medical play "t" value 12.042 and with balloon blowing "t" value 14.432and using Wong-baker faces pain score which was significant ($p<0.01$) .The level of fear pre and posttest fear with medical play "t" value 13.664 and with balloon blowing "t" value 12.213 using modified child medical fear score which was significant ($p<0.01$).It shows that intervention is effective in reduction of pain and fear among children in both groups.
- The post test pain in both groups the paired 't ' test the obtained value were 0.320 and the post test pain in both groups the paired 't ' test the obtained value were 0.527.there was no significant between post pain and fear in both groups. Both intervention are effective to reduce pain and fear..
- Correlation between pain and fear exist in both group.
- The association between level of pain and sex in which χ^2 value is 7.813 in sex which was significant at $p < 0.05$.There was an association between the sex and level of pain in medical play.
- The association between level of pain and age in which χ^2 value is 9.314 which was significant at $p<0.05$ .There is significant relationship between age and the level of pain in balloon blowing.
- Association between number of previous admission and level of pain "F" value is 4.466 which was significant at $p<0.05$ and the level of fear the 'F' value is 7.753 which was significant at $p <0.01$ .Hence therefore there was an association between number of previous admission and level of fear in medical play.

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APPENDIX - A

a. DEMOGRAPHIC VARIABLES OF CHILDREN

Sample No : **Group :**

1.Age

a) 8-10 years

b) 10 -12 years

2.Sex

a) Male

b)Female

3. Type of family

a) Nuclear

b) Joint

4. Presence of parents with the child

a) Mother

b) Father

b)HOSPITALIZED CHILDREN ACCORDING TO CLINICAL CHARACTERISTICS

1.Present diagnosis ----------

2..Duration of present admission

a) <5 Days

b) > 5 Days

3. Number of previous admission

a) < 3 Time

b) > 3 Time

c) Nil

APPENDIX - B

a. MODIFIED CHILD MEDICAL FEAR SCALE

S.no	Items	Not at all afraid 1	Little afraid 2	A lot afraid 3
1	Other children with critical conditions surrounding me			
2	Going to bathroom at night alone			
3	Sleeping alone			
4	Loud sounds			
5	Darkness			
6	Hurting self			
7	Going to doctors office			
8	Having a finger stuck			
9	Nurse's uniform			
10	Medical instruments and their sounds			
11	Seeing blood comes out			
12	Smell of the hospital			
13	Getting a shot			
14	Physical examination			
15	Physician's round			
16	Medications			
17	Doctor putting tongue blade in mouth			
18	Doctor / nurse looking down in the throat			
19	Dying in hospital			
20	Doctor not telling what is being done			
21	Being away from family			
22	Having to stay a long time in hospital			
23	Missing school			
24	Failure at school			
25	Doctors / nurse telling something is wrong			

***Not at all afraid-1** ***Little afraid-2** ***A lot afraid-3**

gFjp – 1

m) kUj;Jtkidapy; mDkjpf;fg;gl;oUf;Fk; FHe;ijfisg; gw;wpa Fwpg;g[

1. taJ

   m) 8 – 12 taJ

   M) 10 – 14 taJ

2. ghypdk;

   m) Mz;

   M) bgz;

3. FLk;g tif

   m) jdpf; FLk;gk;

   M) Tl;Lf; FLk;gk;

4. kUj;Jtkidapy; FHe;ija[ld; ,Ug;gth;

   m) mk;kh

   M) mg;gh

M)kUj;Jtkidapy; mDkjpf;fg;gl;oUf;Fk; FHe;ijfspd; cly;epiyiag; gw;wpa Fwpg;g[

1. jw;nghJ FHe;ijapd; neha; fz;lwpjy;…….

2. jw;nghJ kUj;Jtkidapy; j';fpapUf;Fk; ehl;fspd; vz;zpf;if

   m) 5 ehl;fSf;F Fiwthf

   M) 5 ehl;fSf;Fk; mjpfkhf

3.vj;jid Kiw ,jw;F Kd;ghf kUj;Jtkidapy; rpfpr;ir bgw;Ws;sPh;fs;.

   m) 3 Kiwf;Ff; Fiwthf

   M) 3 Kiwf;F mjpfkhf

b.Á¡¾¢¡¢ «¨Áì¸ôÀð¼ ÌÆó¨¾Â¢ý ÀÂò¨¾ «ÇìÌõ «Ç×§¸¡ø

Á¡¾¢¡¢ ±ñ : **ÌØ :**

Å ±ñ	**Å¨¸¸û**	**ÀÂõ þø¨Ä 1**	**¦¸¡ï°õ ÀÂõ 2**	**«¾¢¸ ÀÂõ 3**
1.	±ý¨É ÍüÈÔûÇ ÌÆó¨¾¸û ¾£Å¢Ã §¿¡Â¢É¡ø À¡¾¢ì¸ÀðÎ þÕìÌõ§À¡Ð			
2.	þÃÅ¢ø ¾É¢Â¡¸ ¸Æ¢Å¨ÈìÌ ¦°øÖõ§À¡Ð			
3.	¾É¢Â¡¸ àíÌõ§À¡Ð			
4.	«¾¢¸ °ò¾õ §¸ðìÌõ§À¡Ð			
5.	þÕð¼¡¸ þÕìÌõ§À¡Ð			
6.	ÅÄ¢ ²üôÀÎõ§À¡Ð			
7.	ÁÕòÐÅ¡¢ý «¨ÈìÌ ¦°øÖõ§À¡Ð			
8.	Å¢ÃÄ¢ø °°¢ ÌòÐõ§À¡Ð			
9.	¦°Å¢Ä¢Â÷ °£Õ¨¼¨Â À¡÷ìÌõ§À¡Ð			
10.	ÁÕòÐÅ ¸ÕÅ¢ Áüêõ «¾Û¨¼Â ´Ä¢¨Â §¸ðìÌõ§À¡Ð			
11.	þÃò¾õ ¦ÅÇ¢§ÂÕÅ¨¾ À¡÷ìÌõ§À¡Ð			
12.	ÁÕòÐÅÁ¨ÉÂ¢ø Å¡°õ «ÊìÌõ§À¡Ð			
13.	°°¢ §À¡Îõ§À¡Ð			
14	±ý ¯¼¨Ä À¡¢§°¡¾¢ìÌõ§À¡Ð			
15	ÁÕòÐÅ÷ ÌÆó¨¾¸û ÀÌ¾¢¨Â À¡÷ìÌõ§À¡Ð			
16	ÁÕóÐ ¦¸¡ÎìÌõ§À¡Ð			
17	ÁÕòÐÅ÷ ¿¡ìÌ «ØòÐõ ¸ÕÅ¢¨Â Å¡Â¢ø §À¡Îõ§À¡Ð			
18	ÁÕòÐÅ÷ ÁüÚõ ¦°Å¢Ä¢Â÷ ±ý ¦¾¡ñ¨¼¨Â À¡÷ìÌõ§À¡Ð			
19	ÁÕòÐÅÁ¨ÉÂ¢ø þÈì¸ §¿÷ó¾¡ø			
20	ÁÕòÐÅ÷ ±ýÉ ¦°öÐ¦¸¡ñÎ þÕì¸¢È¡÷ ±ýÚ ¦°¡øÄ¡¾§À¡Ð			
21	ÌÎõÀò¨¾ Å¢ðÎ þÕìÌõ§À¡Ð			
22	ÁÕòÐÅÁ¨ÉÂ¢ø ¿£ñ¼ ¿¡ð¸Ç¡¸ ¾í¸¢ þÕìÌõ§À¡Ð			
23	ÀûÇ¢Ü¼ò¨¾ À¡÷ì¸¡¾§À¡Ð			
24	ÀûÇ¢ìÌ ¦°øÄÓÊÂ¡¾§À¡Ð			
25.	ÁÕòÐÅ÷ ÁüÚõ ¦°Å¢Ä¢Â÷ ±ý ¯¼ø¿¢¨Ä¨Â ÀüÈ¢ ¾ÅÈ¡¸ ¦°¡øÖõ§À¡Ð			

ÀÂõ þø¨Ä -1 ¦¸¡ï°õ ÀÂõ -2 «¾¢¸ ÀÂõ-3

APPENDIX - C

WONG-BAKER FACES PAIN RATING SCALE

APPENDIX – D

COPY OF LETTER SEEKING PERMISSION

KMCH COLLEGE OF NURSING

(Approved by the Government of Tamil Nadu & The Tamil Nadu Nurses & Midwives Council, Chennai.
Recognized by the Indian Nursing Council, New Delhi and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)
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Prof. DR. S. Madhavi, M. Sc(N)., Ph. D.
Principal.

Ref. No. KMCRET/6163/02/18 20/02/2018

TO
Dr. K . Rajendran,MBBS.,M.D(Paed).,
Consultant Paediatrician &Neonatologist ,
Kovai Medical Center and Hospital,
Coimbatore–14

Dear Sir

Greetings to you from KMCH College of Nursing.

I submit that one of our M.Sc(N) final year student by name Ms. Jancy Rani specialized in Paediatric Nursing in our college desires to conduct a study titled " A Study to assess the effectiveness of coping strategies on pain and fear of hospitalization among children admitted at Kovai Medical Center and Hospital' Coimbatore as part of her M.Sc(N) curriculum .

As she is in need of Medical Expert to complete the study, I request you to guide the student.

Thanking You

PRINCIPAL

The Principal
K.M.C.H. College of Nursing
P.B. No. : 3209, Avanashi Road,
Coimbatore - 641 014.

I Agree to guide her

21/2/18

Dr. K. RAJENDRAN, M.D(Paed,)
Head of the Department
Consultant Pediatrician & Neonatologist
Reg. No : 51202
Kovai Medical Center and Hospital
Coimbatore - 641 014

APPENDIX – E

COPY OF LETTER FROM ETHICAL COMMITTEE

KMCH ETHICS COMMITTEE
KOVAI MEDICAL CENTER AND HOSPITAL LIMITED
Excellence in Healthcare
99, Avanashi Road, Coimbatore - 641 014. INDIA
✆ (0422) 4323800, 4323619 | Fax : (0422) 4270805 | E-mail : ethics@kmchhospitals.com
EC Reg. No : ECR / 112 / Inst / TN / 2013

Ref: EC/AP/609/04/2018
23.04.2018

APPROVED

To

Dr. Ms. Mariammalpappu, M.Sc. (N), Ph.D,
Head of the Department – Child Health Nursing,
KMCH College of Nursing,
Coimbatore – 641 014.

Dear Dr. Mariammalpappu,

The proposal entitled **"A study to assess the effectiveness of coping strategies on pain and fear of hospitalization among children admitted at Kovai Medical Center and Hospital, Coimbatore"**, submitted by **Ms. P. Jancy Rani,** under your supervision was reviewed by the Ethics Committee in its meeting held on **21.04.2018** and grants ethical clearance for the study .

Regards,
Yours Sincerely,

25/4/18

Dr.M.S. Thamizharasi,
Chairperson,
KMCH Ethics Committee.

Dr. M.S.Thamizharasi
M.D.,D.G.O.,PG Dip (Psych)
Chairperson
Ethics Committee
Kovai Medical Center and Hospital
Coimbatore - 641 014

Copy to Clinical Guide:

Dr. K. Rajendran, MBBS, M.D (Paed),
Head of the Department – Pediatrics and Neonatal Unit,
Kovai Medical Center and Hospital,
Coimbatore-641 014.

ETHICS COMMITTEE

APPENDIX – F

CONTENT VALIDITY

From

II Year M.Sc., Nursing
K.M.C.H. College of Nursing,
Coimbatore – 14.

To

Through,
The Principal,
K.M.C.H. College of Nursing,
Coimbatore.

Respect Sir/ Madam,

Sub: Seeking Expert opinion and content validity regarding.

I am the student of KMCH College of Nursing. As a part of partial fulfilment of my post graduate programme, I wish to undertake a study titled, **"Effectiveness of coping strategies on pain and fear of hospitalization among children admitted KMCH at Coimbatore".** It will be of immense help to me if you could peruse the proposal. Here with I am enclosing the copy to the same. Kindly do the needful.

Thanking you,

Yours faithfully,

Place:

Date:

CERTIFICATE FOR CONTENT VALIDITY

This is to certify I have perused that research proposal submitted by the student of KMCH College of Nursing Reg. No 301615451 entitled as **"Effectiveness of coping strategies on pain and fear of hospitalization among children at Kovai Medical Center and Hospital, at Coimbatore .**

I found that methodology of the content and tool are appropriate.

Date : 23/12/2017.

G. Manonmani

Signature & Seal

Dr. G. Manonmani MBBS.,MRCPH(UK)
Consultant Paediatrician
Regn. No : 56000
Kovai Medical Center & Hospital Ltd.
Coimbatore - 641 014

CERTIFICATE FOR CONTENT VALIDITY

This is to certify I have perused that research proposal submitted by the student of KMCH College of Nursing Reg. No 301615451 entitled as **"Effectiveness of coping strategies on pain and fear of hospitalization among children at Kovai Medical Center and Hospital, at Coimbatore .**

I found that methodology of the content and tool are appropriate.

Date : 23/12/17

Signature & Seal

Dr. SUMATHA CHINNAPPAN
MBBS., DCH (UK)., MRCPCH (UK), CCT (UK)
CONSULTANT PAEDIATRICIAN AND PAEDIATRIC
EPILEPSY SPECIALIST
Reg. No : 67077
Kovai Medical Center and Hospital
Coimbatore - 641 014

CERTIFICATE FOR CONTENT VALIDITY

This is to certify I have perused that research proposal submitted by the student of KMCH College of Nursing Reg. No 301615451 entitled as **"Effectiveness of coping strategies on pain and fear of hospitalization among children at Kovai Medical Center and Hospital, at Coimbatore .**

I found that methodology of the content and tool are appropriate.

Date : 22/12/2017

N.B.T

Signature & Seal

Prof. N.B. Mahalakshmi
KMCH college of Nsg.
Avinashi Road,
Coimbatore - 14.

CERTIFICATE FOR CONTENT VALIDITY

This is to certify I have perused that research proposal submitted by the student of KMCH College of Nursing Reg. No 301615451 entitled as **"Effectiveness of coping strategies on pain and fear of hospitalization among children at Kovai Medical Center and Hospital, at Coimbatore .**

I found that methodology of the content and tool are appropriate.

Date : 22/12/2017

Signature & Seal

R. SASIKALA,
Asso. Professor,
KMCH College of Nursing,
Avinashi Road,
Coimbatore - 14.

APPENDIX - G

LIST OF EXPERTS

1. **DR. Rajendran, MBBS.,MD(Pead).,**
   Head of the Department
   Consultant Peadiatrician and Neonatologist,
   Kovai Medical Center and Hospital,
   Coimbatore - 641 014.

2. **Dr. Sujatha Chinnappan MBBS., DCH(UK), MRCPCH(UK), CCT(UK)**
   Consultant Paediatrician & Paediatric Epilepsy Specialist
   Kovai Medical Center and Hospital,
   Coimbatore – 14.

3. **Dr. G. Manonmani MBBS.,MRCPH (UK)**
   Consultant Paediatrician,
   Kovai Medical Center and Hospital,
   Coimbatore – 14.

4. **Prof. Dr.S.Madhavi ,M.Sc (N).,Ph.D.,**
   Principal,
   KMCH College of Nursing,
   Coimbatore – 641014

5. **Prof. Dr. Mariammal Pappu M.Sc.(N).,Ph.D.,(BS).,**
   Head of the Department,
   Department of Paediatric Nursing,
   KMCH College of Nursing,
   Coimbatore – 641014

6. **Mrs. N.B. Mahalakshmi., M.Sc.,(N),**
   Professor in Child Health Nursing,
   KMCH College of Nursing,
   Coimbatore – 14.

7. **Mrs.R. Sasikala M.Sc., (N),**
   Asst. Professor in Child Health Nursing,
   KMCH College of Nursing,
   Coimbatore – 14.

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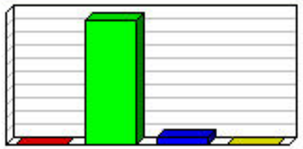

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